1 & 3 QUEEN ANNE'S GATE, 9, 11 & 12-15 DARTMOUTH STREET AND 12 & 14 CARTERET STREET CITY OF WESTMINSTER

AN ARCHAEOLOGICAL ASSESSMENT

LOCAL PLANNING AUTHORITY: CITY OF WESTMINSTER

PCA REPORT NO: 12691

SITE CODE: QUA15

OCTOBER 2016

PRE-CONSTRUCT ARCHAEOLOGY

An Assessment of an Archaeological Investigation at 1 & 3 Queen Anne's Gate, 9, 11 & 12-15 Dartmouth Street and 12 & 14 Carteret Street, Westminster, SW1H 9BU

Site Code: QUA15

Central National Grid Reference: TQ 29737 79583

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1 & 3 QUEEN ANNE'S GATE, 9, 11 & 12-15 DARTMOUTH STREET AND 12 & 14 CARTERET STREET CITY OF WESTMINSTER ARCHAEOLOGICAL EXCAVATION

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CONTENTS

Appendices

Illustrations

PLATES

1 ABSTRACT

1.1 This report details the results and working methods of an archaeological watching brief and excavation carried out on land at 1 & 3 Queen Anne's Gate, 9, 11 & 12-15 Dartmouth Street and 12 & 14 Carteret Street, Westminster, SW1H 9BU. The work was undertaken by Pre-Construct Archaeology Limited for CgMs Consulting on behalf of Gardiner & Theobald LLP who acted on behalf of One Queen Anne's Gate Limited. The project was supervised by the author and Phil Frickers, both of PCA Ltd. The archaeological fieldwork followed an initial Archaeological Desk Based Assessment (Boyer 2013). Three phases of archaeological investigation were undertaken consisting of a watching brief and excavation of crane base between 2nd March 2015 and 17th March 2015; the monitoring of geotechnical test pits on 21st September 2015; and a comprehensive watching brief, which included an open area excavation, between 2nd October 2015 and 11th November 2015. The investigations revealed a continuous stratified sequence of archaeological deposits, features and structures that extended from the prehistoric period to the 20th century.

1.2 The natural drift geology was encountered across site during the excavation. This was seen to be a sequence of alluvial sands that descended in level to the east, from a high point of 1.92m OD in the west to 1.05m OD in the east

1.3 The earliest archaeological features were prehistoric postholes together with a large northeast to southwest aligned channel that extended beyond the excavation limits into Dartmouth Street in the east of the site and a linear cut in the west.

1.4 Medieval activity consisted of isolated pitting and soil horizons whilst the large channel across the eastern part of the site was backfilled during this period.

1.5 The majority of the features and structures that were encountered during the works were of post-medieval date. The earliest of these were interpreted as quarry pits, horticultural features and deposits that predated the buildings that were to occupy the site.

1.6 Masonry structures including brick walls, floors, drains, soakaways and a cesspit were recorded across the northern portion of the site. Two phases of building works were seen, an earlier phase associated with the properties seen on the Richard Horwood map (1792-99) and a later associated with those on the Ordnance Survey map (1869).

1.7 Brick and concrete footings dating from the 20th century were seen in the west, north and east of the site.

1.8 It is recommended that the results of the archaeological investigation will be published as an article in *London Archaeologist*.

2 INTRODUCTION

2.1 This report describes the results and working methods of archaeological investigations undertaken by Pre-Construct Archaeology Ltd at 1 & 3 Queen Anne's Gate, 9, 11 & 12-15 Dartmouth Street and 12 & 14 Carteret Street, Westminster, SW1H 9BU (Fig. 1).

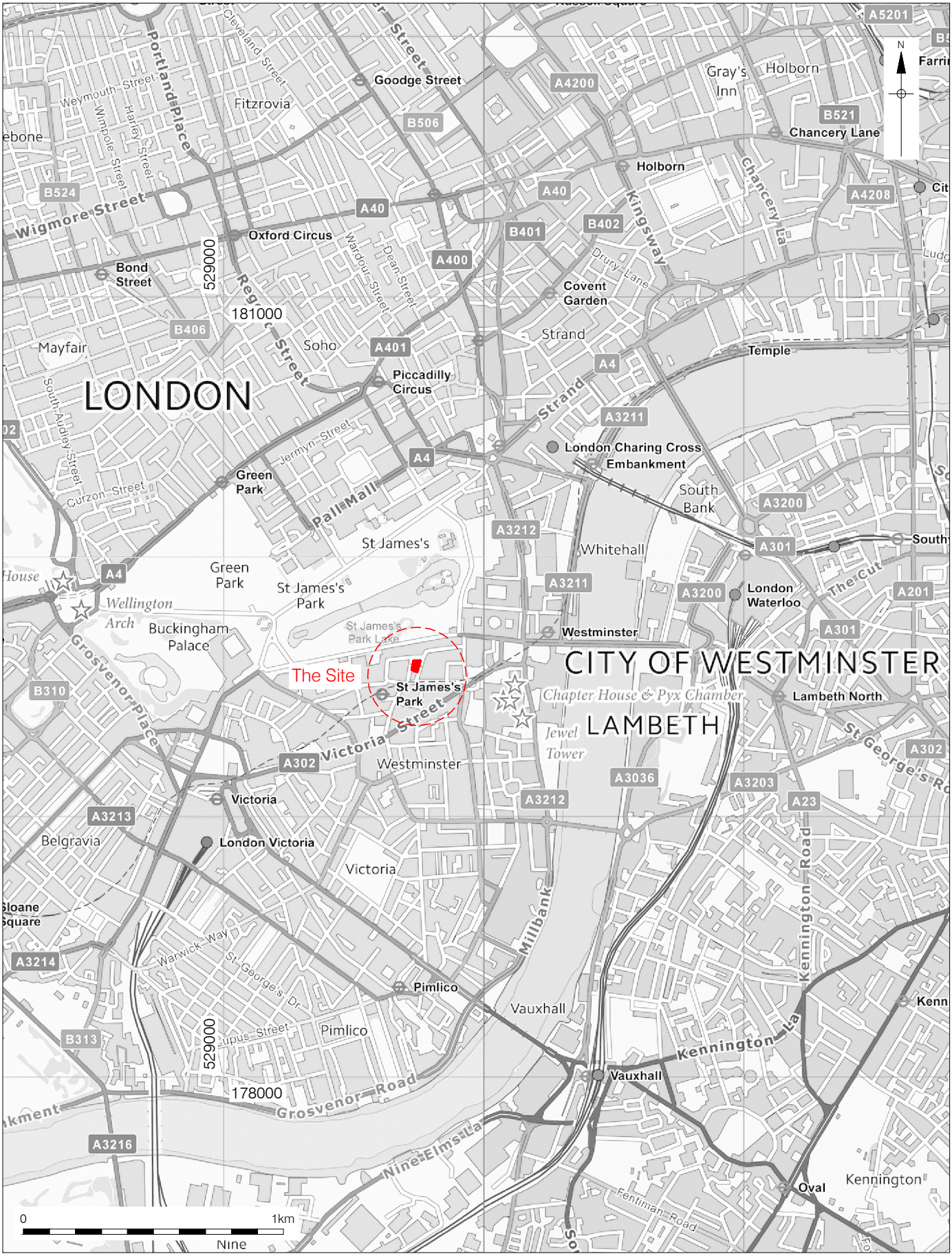
2.2 The work was carried out in accordance with the Written Scheme of Investigation prepared for the project (Hawkins 2015a). The site is centred on National Grid Reference TQ 29737 79583. Following an initial archaeological desk based assessment (Boyer 2013), three phases of archaeological investigation were undertaken consisting of a watching brief and excavation of crane base between 2nd March 2015 and 17th March 2015; the monitoring of geotechnical test pits on 21st September 2015; and a comprehensive watching brief, which included an open area excavation, between 2nd October 2015 and 11th November 2015. A research report was also carried out (Skelton 2015) which examined original documents to assess who the occupiers of the houses were, and their social status.

2.3 The site is a sub-rectangular strip of land bounded to the north by Queen Anne's Gate, to the east by Dartmouth Street, to the west by Carteret Street and by properties at 10 Carteret Street and 16 Dartmouth Street (Fig. 2). The site covers an area of 1355.9m^2.

2.4 The project was commissioned by Duncan Hawkins of CgMs Consulting on behalf of Gardiner & Theobald LLP who acted on behalf of One Queen Anne's Gate Limited. The works were supervised by Shane Maher and Phil Frickers and the project was managed for PCA by Helen Hawkins. The work was additionally monitored for the local planning authority by Gill King the archaeological advisor for the City of Westminster.

2.5 The site lies a short distance to the south of St James's Park in the city of Westminster and is located at the edge of the Lundenwic and Thorney Island Area of Special Archaeological Priority.

2.6 The completed archive comprising written, drawn and photographic records and artefacts will be deposited with LAARC under the Museum of London site code QUA 15.



27/10/16 JS

Figure 1
Site Location
1:20,000 at A4

27/10/16 JS

Figure 2
Trench Locations
1:250 at A4

3 PLANNING BACKGROUND

3.1 The proposed development of the site was subject to planning guidance and policies contained within the National Planning Policy Framework (NPPF), the London Plan and those of the City of Westminster, which fully recognises the importance of the buried heritage for which it is the custodian.

3.2 In March 2012, the government published the National Planning Policy Framework (NPPF), which replaced existing national policy relating to heritage and archaeology (Planning Policy Statement 5: Planning for the Historic Environment (PPS5)). In summary, current national policy provides a framework which protects nationally important designated Heritage Assets and their settings, in appropriate circumstances seeks adequate information (from desk based assessment and field evaluation where necessary) to enable informed decisions regarding the historic environment and provides for the investigation by intrusive or non-intrusive means of sites not significant enough to merit in-situ preservation. Relevant paragraphs within the NPPF include the following:

128. *In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.*

129. *Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.*

132. *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be*

exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*

3.3 The Glossary contained within the NPPF includes the following definitions:

Heritage asset: A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).

Archaeological interest: There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

Historic environment: All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

Historic environment record: Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.

3.4 The London Plan, published July 2011, includes the following policy regarding the historic environment in central London, which should be implemented through the Local Development Framework (LDF) being compiled at the Borough level:

POLICY 7.8 HERITAGE ASSETS AND ARCHAEOLOGY

Strategic

A London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

Planning decisions

C Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

LDF preparation

F Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

3.5 The local planning authority responsible for the study site is the City of Westminster whose Unitary Development Plan (UDP) is to be shortly replaced with the LDF Core Strategy adopted in January 2011. Meanwhile, the majority of policies of the UDP have been saved pending the full introduction of the LDF, including most of those relating to the historic environment:

DES 11: SCHEDULED ANCIENT MONUMENTS, AREAS AND SITES OF ARCHAEOLOGICAL PRIORITY AND POTENTIAL

Aim

10.147 To identify archaeological remains of national and local importance, conserve them in their settings, and provide public access to them. Where new development is proposed on sites of archaeological potential, to ensure adequate archaeological impact assessment, followed by appropriate provision for preservation or investigation, recording, and publication.

POLICY DES 11: SCHEDULED ANCIENT MONUMENTS, AREAS AND SITES OF ARCHAEOLOGICAL PRIORITY AND POTENTIAL

(A) Scheduled Ancient Monuments

Permission for proposals affecting the following Scheduled Ancient Monuments, or their settings, will be granted providing that their archaeological value and interest is preserved:

1) the Chapter House and Pyx Chamber in the Cloisters, Westminster Abbey

2) the Jewel Tower.

(B) Areas and Sites of Special Archaeological Priority and Potential

Permission will be granted for developments where, in order of priority:

1) all archaeological remains of national importance are preserved in situ

2) remains of local archaeological value are properly, evaluated and, where practicable,

preserved in situ

3) if the preservation of archaeological remains in situ is inappropriate, provision is made for full investigation, recording and an appropriate level of publication by a reputable investigating body.

Policy application

10.148 There are three categories of archaeological remains. In order of importance they are:

a) Scheduled Ancient Monuments: nationally important remains which are scheduled under the Ancient Monuments and Archaeological Areas Act 1979

b) Areas of Special Archaeological Priority: areas rich in archaeological remains, where ground works are likely to reveal archaeological remains

c) Sites of Archaeological Significance and Potential: areas where archaeological remains are known or thought likely to exist.

10.149 These locations are listed in the Sites and Monuments Record maintained by English Heritage. The Areas of Special Archaeological Priority are Lundenwic and Thorney Island; Paddington and Lillestone Villages; Marylebone Village; Tyburn Settlement and Ebury Village. The archaeological data produced by the Museum of London and English Heritage provide more detailed information, including further sites and areas of archaeological significance and potential within Westminster. Areas of Special Archaeological Priority are illustrated on Maps 10.3-10.7. Information on these and other sites of archaeological priority and potential are available from the Greater London sites and monuments record maintained by English Heritage.

10.150 In considering applications for development of land with archaeological potential, the City Council will require an archaeological assessment detailing the potential impact of development upon surviving archaeological remains. Should archaeological evaluation and investigations be required, it must be undertaken in accordance with a written scheme of investigation approved by the City Council. The Greater London Archaeology Advisory Service provides guidance papers detailing these procedures. With respect to policy DES 11 B (3), investigation may include a watching brief and, or, a full excavation.

10.151 The City Council will seek professional archaeological advice as appropriate and will encourage applicants proposing development to do the same. Where development may affect land of archaeological priority or potential, the City Council will expect applicants to have properly assessed and planned for the archaeological implications of their proposals. In this way the Council and the applicant will have sufficient information upon which an informed planning decision, incorporating appropriate archaeological safeguards, may be based. Such safeguards normally consist of design measures to ensure the permanent preservation of archaeological remains in situ or, where that is not appropriate, archaeological rescue investigations in advance of development. The results and finds from archaeological investigations also need to be analysed, interpreted, presented to the public and curated for future use. Attention is drawn to the advice contained within the code of practice prepared by the British Archaeologists' and Developers Liaison Group.

Reasons

10.152 Archaeological remains are important evidence of the City's past and are a valuable historical, educational and tourist resource. They are finite and fragile; once lost, they cannot be recovered. The City Council considers that the archaeology of Westminster is a national as well as a local asset and that its preservation is a legitimate objective, against which the needs of development must be carefully balanced and assessed. The destruction of such remains should be avoided wherever possible and should never take place without prior archaeological excavation and record.

10.153 The most important archaeological remains are scheduled and are protected under the Ancient Monuments and Archaeological Areas Act 1979. Where works to such sites and their setting are proposed, including repair, scheduled ancient monument consent is required.

10.154 The London Plan states at Policy 4.C.10 that boroughs "should give careful consideration to the relationship between new development and the historic environment including archaeological areas, including tidal foreshores…". National planning guidance is set out in PPG16: Archaeology and Planning, issued in November 1990.

10.155 The preservation of Westminster's archaeological heritage is a material planning consideration and applicants will need to show that proposed development is compatible with the objectives of the City Council's archaeological policy. The Council will wish to implement that policy under relevant legislation and statutory guidance and by means of legal agreements and planning conditions.

3.6 The relevant section of the LDF for the City is Core Strategy 24:

POLICY CS24 HERITAGE

Recognising Westminster's wider historic environment, its extensive heritage assets will be conserved, including its listed buildings, conservation areas, Westminster's World Heritage Site, its historic parks including five Royal Parks, squares, gardens and other open spaces, their settings, and its archaeological heritage. Historic and other important buildings should be upgraded sensitively, to improve their environmental performance and make them easily accessible.

Reasoned Justification

The intrinsic value of Westminster's high quality and significant historic environment is one of its greatest assets. To compete effectively with other major, world-class cities the built environment must be respected and refurbished sensitively as appropriate. Any change should not detract from the existing qualities of the environment, which makes the city such an attractive and valued location for residents, businesses and visitors.

Detailed policies for each type of heritage asset will be set out in the City Management Plan. Area-based characteristics and detailed measures required to protect and enhance heritage assets have been set out in Conservation Area Audit Supplementary Planning Documents and the Westminster World Heritage Site Management Plan.

3.7 There were no Scheduled Ancient Monuments within the development site, but the site lay at the edge of the Lundenwic and Thorney Island Area of Special Archaeological Priority as defined by the City of Westminster. The site also lay within the Broadway and Christchurch Gardens Conservation Area and immediately to the south of the Birdcage Walk Conservation Area. Furthermore the structure comprising 1 & 3 Queen Anne's Gate was a Grade II Listed Building. The site had a planning condition for archaeological investigation.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.1 The full geological background of the site is detailed in the desk based assessment (Boyer 2013). The desk based assessment stated that the underlying geology was London Clay overlain by alluvial clay, silt and sand. During the investigations the natural drift geology encountered comprised a yellow sand, the top of which was seen at 2.0m OD in the west of site (Trench 5), by Carteret Street.

4.2 Topography

4.2.1 The site lay on land that exhibited little variation in elevation from east to west but sloped down gradually from north to south. The external road surface directly to the north of 1 & 3 Queen Anne's Gate was recorded at 5.130m OD whilst the surface at the entrance to 12-15 Dartmouth Street lay at 4.235m OD. There was however, some modification of the natural topography during previous development in the area. The site lay under a basement slab that was generally level at *c.* 2.8m OD.

4.2.2 There were no natural bodies of water within the immediate vicinity of the site, though the Westminster stretch of the River Thames lies less than 600m to the east. Storey's Gate, a little more than 150m east of the site follows the line of a former stream bed, possibly a channel of the Tyburn River. The nearest open body of water to the site was St James's Park Lake approximately 200m to the north, a much modified feature formerly comprising a linear canal but now of a more irregular form.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1.1 A full archaeological and historical background is given in the desk based assessment (Boyer 2013). A summarised version is listed below.

5.2 **Prehistoric**

5.2.1 Material suggesting a human presence in the area since the Mesolithic period was found during archaeological investigations on the edge of Birdcage Walk *c.* 180m northeast of the study area. This included blades, cores and a burnt microlith which were recovered from alluvial deposits. During this same investigation one sherd of Iron Age pottery was recovered.

5.2.2 A hoard of Iron Age potin coins was found in 1827 to the northwest in St James Park.

5.3 **Roman**

5.3.1 There is a scattering of evidence of nearby Roman activity. Only one dateable artefact, a fragment of Roman tile, from a formal archaeological investigation has been found in the vicinity. This was recovered from the evaluation 180m to the northeast at birdcage walk.

5.3.2 A possible Roman soil horizon was revealed during test pitting at 21-29 Victoria Street.

5.3.3 It has been suggested that Tothill Street follows the line of a Roman road which leads towards Westminster Abbey and to the Thames beyond.

5.4 **Early Medieval**

5.4.1 The early medieval settlement of Lundenwic was established after the abandonment of Roman Londinium in the 5th century AD. This was located to the west of the Roman city and within 500m of the study area. No evidence of occupation has been noted within 250m radius of the site.

5.5 **Medieval**

5.5.1 To the east of the study site the area a stone church of was built by Edward the Confessor replacing an earlier, possibly 10th century, monastery. This was to become Westminster Abbey. The area around the abbey continued to develop in the medieval period.

5.5.2 West of the site a settlement grew along Petty France.

5.5.3 There is mention of a possible 13th-century Hospital and later almshouse in the vicinity of St James's Park underground station. A chapel dedicated to St Armil/Armine was also located nearby on a mound known as Toot Hill which later gave its name to Tothill Street to the south of the site.

5.5.4 The first mention of the study site comes from 1353 when the parish church of St Margaret, Westminster, acquired the land. Later it was confiscated by the crown during the Dissolution.

5.6 **Post-Medieval**

5.6.1 Land including the site was purchased from the crown in 1549 by Richard Casteler. After the death of his wife the land was bequeathed to Christ's Hospital. Tothill Street to the south of the site was lined with the houses of aristocratic families in the 16th and 17th centuries. In *c.* 1658 much of the street was rebuilt with smaller houses, some of which were used as inns (Weinreb & Hibbert 1983, 868). The site developed gradually from the later part of the 16th century and intensified after the creation of Park Street in the late 17th century.

5.6.2 Dartmouth Street was built in 1705 and was named after William Legge, Lord Dartmouth, who resided at Queen Square (now Queen Anne's Gate) (Weinreb & Hibbert 1983, 221). By the time of John Strype's Map (1720) the area surrounding the site is developed and Dartmouth Street is shown. In John Rocque's map (1746) the area has almost taken its present form. A road now runs to the west of Dartmouth Street, although it is not named on the map it is Carteret Street. To the north lies Queen Square.

5.6.3 In the last quarter of the 18th century Park Street (Queen Anne's Gate) and the northern part of Carteret Street were developed by Michael Barrett (Cox 1926). The results of this development are shown on the Richard Horwood map (1792-99) which shows uniform buildings on Dartmouth Street and Cartwright Street (Carteret Street) with the exception of the northern part of the latter street. By the Ordnance Survey map of 1869 the streets had taken their present form, with later developments confined to the properties occupying the study area. The highly complex later developments of the site during the 18th, 19th and 20th centuries are reported elsewhere (Montague Evans 2013).

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The work comprised three phases of archaeological investigation. The initial phase consisted of a watching brief on the excavation of a crane base and was followed by a subsequent small area of excavation once archaeological remains were revealed. The work took place between 2nd March 2015 and 17th March 2015. The second phase consisted of the monitoring of geotechnical test pits on 21st September 2015 to determine if archaeological remains survived beneath basement areas of the site. A final and more comprehensive phase of works was undertaken between 2nd October 2015 and 11th November 2015 (Fig. 2).

6.2 The final phase of work started with the monitoring of fourteen thrust blocks (Trenches 1-14). These were excavated and filled with concrete to provide stable bases for the steel supports that would hold the upstanding exterior walls in place. The first of these blocks was excavated in the west (Carteret Street) side of the site and the last on the west at Dartmouth Street.

6.3 A targeted open area excavation was then undertaken to the north of the crane base trench (Fig. 2). A 5m grid was established across the area of interest. Once the later archaeological deposits were cleaned and recorded the area was machined under archaeological supervision down to the natural sands to determine if any prehistoric deposits or features were present.

6.4 A 360° mechanical excavator was used to break and remove the concrete and other modern deposits prior to archaeological intervention. In accordance with the Written Scheme of Investigation (Hawkins 2015a), following the removal of the modern overburden, all archaeological deposits were hand cleaned by archaeologists using appropriate hand tools.

6.5 Archaeological features were recorded using the single context recording system, with individual descriptions of all archaeological features and strata excavated and exposed entered onto pro-forma recording sheets. All detailed plans and sections of archaeological deposits and features were recorded on polyester based drawing film, the plans and sections being drawn at a scale of 1:10 and 1:20 as appropriate. The OD height of all principal strata was calculated and indicated on the appropriate plans and sections. Features that were evidently modern were not given context numbers, and were recorded as modern intrusions in plan.

6.6 The limits of excavation were hand drawn and surveyed using GPS survey equipment. Two Temporary Bench Marks (TBMs) were established by traversing from an Ordnance Survey Bench Mark of 3.45m OD located just beyond the Cockpit Steps on Birdcage Walk. TBM 1, 4.25m OD, was on the footpath at the Dartmouth Street site entrance and TBM 2, 3.25m OD, was located on the concrete slab in the east of the site.

6.7 Photographs in digital format were taken of the archaeological features and deposits where relevant. Site staff also used 35mm digital cameras on a day-to-day basis,

6.8 In this report contexts are shown by square brackets e.g. [100], small find by chevrons e.g. <1> and environmental samples by brackets e.g. {23}. Limits of excavation are given the abbreviation of LOE.

7 ARCHAEOLOGICAL SEQUENCE

7.1 Introduction

7.1.1 The stratigraphic sequence has been divided into five main phases, they are as follows:

7.2 PHASE 1: Natural

[61], [242], [388].

[42], [104], [105], [109], [110], [111], [126], [163], [178], [189], [201], [206], [219], [228], [233], [241], [251], [257], [269], [337], [344], [382], [382], [385], [388], [391], [412], [436], [452], [456]

7.2.1 The natural drift geology was encountered in all areas of investigation. The lowest of these geological layers was a gravelly sand deposit [61] which was seen the centre of site at 0.19m OD. In the northwest corner of site two deposits of light to mid yellow brown alluvial sand [242] and [388] were at between 0.94m OD and 1.01m OD respectively.

7.2.2 Similar deposits of light yellow brown, alluvial sands were noted across the site. An untruncated high point of 1.92m OD was noted in the west of site, by Carteret Street, and an apparent low point was seen in the east at 1.05m OD. This shows that the site appears to slope gently to the east, toward Dartmouth Street.

7.3 PHASE 2: Prehistoric (Fig. 3)

7.3.1 Various prehistoric features and deposits, including a cluster of postholes, a linear feature and three soil horizons were recorded during the archaeological works.

7.3.2 A palaeochannel [153]/[157]/[175]/[200] was revealed along the western part of the site in Trenches 7, 8 and 10, measuring as exposed *c.* 8.4m in length by 2.4m wide although it continued beyond the northern, southern and eastern LOE. The latest fills of the feature were medieval in date and the feature is described in detail in Phase 3 below. However, a core was extracted from the fills of the feature by means of a power auger and a sample taken at a level of 0.9m OD was radiocarbon dated to 9131-8766 cal BC (see Appendix 9).

7.3.3 A cluster of six shallow sub-rounded to sub-oval postholes was located in the east of the site near to Dartmouth Street. Five of these postholes, [427], [429], [431], [433], [435], appeared to be grouped together, the other one [425] lay *c.* 2.1m to the west. The group of five were seen between 0.99m OD and 0.94m OD and seemed to form a regular pattern. Distances between the centre points of each posthole ranged between 0.4m to 0.5m, suggesting they were associated. The posthole laying to the west of the main group was seen at 0.74m OD and may or may not have been associated with the others.

7.3.4 The postholes were covered with a layer of light brownish grey silty sand [397]/[455] which was seen between 1.19m OD and 0.99m OD, sloping down to the east. This deposit yielded a sherd of prehistoric pottery and a fragment of struck flint.

7.3.5 A 0.25m thick deposit of light to mid reddish yellow clayey sand [454] was seen at 1.39m OD sealing layer [397]/[455].

7.3.6 In the west of the site a shallow linear feature [437] with fill [386] was noted at 1.57m OD, cutting into the natural sands. This had been truncated to the north and south and extended beyond the excavation limits to the west. The fill of the linear contained a fragment of burnt flint.

7.3.7 Circa 5.0m to the south west of the linear feature, a 0.7m thick layer of mid reddish yellow sand [247] was recorded at 1.71m OD. This deposit yielded small fragments of burnt flint.

7.4 **PHASE 3: Medieval (Figs. 4 & 9; Plates 4 & 5)**

7.4.1 A number of cut features and soil horizons were noted in this period.

7.4.2 Channel [153]/[157]/[175]/[200] which dated to the prehistoric period (see Phase 2 above) was backfilled during this period with the fills lying between 1.19m OD and 0.96m OD Only the western edge was encountered during the excavations as the feature extended beyond the LOE to the east. Gently sloping sides characterised the visible portions of the feature, but due to the excavation limits no base was seen.

7.4.3 A series of waterlain sands and peat deposits [154], [172], [173], [174], [198], [199] filled the cut. The lowest encountered fill in the northern section of the channel was a sandy peat deposit [174]. The upper sand fill [172] yielded pottery dated 970-1100. To the south two other sandy fills seen in the upper portion of the feature contained pottery dated 1000-1150 and 1050-1100, whist radiocarbon dating of a sample from near the top of the sequence was dated to 665-770 cal AD. Bulk samples from two of the lower fills of the channel produced environmental remains including rushes, docks, fat-hen and goosefoots whilst pollen analysis of a core through the fills showed that pollen concentrations were low but suggest areas of open grassland with scattered local woodland in the vicinity (see Appendix 9).

7.4.4 The backfilled channel was cut by a heavily truncated medieval pit [155].

7.4.5 The northern portion of the channel was covered by a dark green brown, silty sand [170] which was seen at 1.65m OD. This in turn was sealed by a moderately compacted layer of mid to dark greenish grey brown, silty sand [166] noted at 1.84m OD. Pottery dated 1340-1400 was recovered from this layer.

7.4.6 To the south a layer of soft light grey orange sand material [162], which contained pottery dated 900-1500, was recorded above the channel at 1.21m OD. Covering this was a deposit of light grey yellow, sand [161] seen at 1.47m OD.

7.4.7 A rectangular feature [160] (Fills [158], [159]) was seen cutting into layer [161] at 1.47m OD. Only the southern and eastern sides of the cut were visible, giving it a rectangular appearance, as the western and northern sides lay beyond the trench limits. Steep, almost vertical sides and an almost flat base characterised the cut. The primary fill [159] was a peaty deposit with pottery fragments dated 1350-1500. The upper fill [158] was a sandy silt with no finds.

7.4.8 In the east of the site, *c.* 4.0m from Carteret Street, the remains of a rectangular pit [108] were encountered at 2.0m OD. The pit had near to vertical sides with a flat base and was filled with a deposit of mid to dark greyish brown, silty sand [107] which yielded pottery dated 1400-1500.

7.4.9 Circa 13.1m to the northeast of [108] a layer of mid yellowish brown, clayey sand [387] with occasional fragments of sandstone was noted at 1.62m OD. This was covered by a layer of mid greyish yellow silty sand [364], containing medieval pot dated 1270-1350, which was truncated by pit [362] at 1.81m OD. The pit was semi-circular shaped with gently sloping sides and a flat base. A modern truncation removed the southern portion of the cut, affecting its final shape. Filling the pit was a deposit of soft mid brownish grey, silty sand [361] material.

7.4.10 A layer of soft yellowish grey, sand [261] material containing CBM and burnt flint was seen in the west of the study area at 2.06m OD.

7.4.11 To the east of this layer, a layer of mid to dark brown green, silty sand [270]/[326] was recorded at 1.78m OD, which contained pottery dated 1270-1350 and 1350-1500.

7.5 PHASE 4: Post-medieval

7.5.1 This phase was characterised by three sub phases of development. The first of these sub-phases was dominated by what have been interpreted here as a series of quarry pits and horticultural features and soil horizons. The second phase largely concerns masonry structures associated with the properties shown on the Richard Horwood Map 1792-99. Lastly, the third sub-phase concerns features and structures associated with the properties shown on the Ordnance Survey Map 1869.

7.6 PHASE 4.1: 16th-17th Century

Quarry Pits, Horticultural Features and Soil Horizons (Figs. 5 & 9; Plate 13)

7.6.1 Groups of quarry pits were seen across the study area.

Quarry pits [359] (Fill [358]), [376] (Fill [357]), [377] (Fill [282]), [378] (Fill [301]), [379] (Fill [380]/[381])

7.6.2 This group of intercutting quarry pits was recorded in the northeast of the site. The uppermost pits [376] and [378] were seen in plan and section at 1.91m OD and the lowest [359] at 1.17m

OD. Only one of the sequence was seen in plan, this was pit [376] which had a sub-squared shape with nearly vertical sides and an almost flat base. The rest were only visible in section (Fig. 9 Section 69) and had more varied characteristics, i.e. their sides ranged between gently to steeply sloping and their bases from concave to irregular. Post-medieval artefacts were found in the fills of three of the pits. Pit [377] (Fill [282]) contained pottery dated 1580-1600, pit [378] (Fill [301]) contained pottery dated 1580-1900, clay tobacco pipe dated 1680-1710 and post-medieval glass, and pit [376] (Fill [357]) contained pottery dated 1580-1600 and clay tobacco pipe dated 1580-1740.

Quarry pits [418]/[441] (Fill [417]/[440]), [449] (Fill [448], [447]), [443] (Fill 442]), [411]/[422] (Fill [410]/[421]), [409]/[420] (Fill [408]/[419]), [439] (Fill [438])

7.6.3 Circa 1.5m to the southwest of this grouping, another two quarry pits were recorded. Pit [418]/[441] (Fill [417]/[440]) was noted in plan and section (Fig. 9 Section 74) between 2.1m OD and 1.95m OD. The eastern portion of the pit was truncated by a modern concrete intrusion. In section the sides were seen to be gently or steeply sloping and the base was unseen.

7.6.4 Pit [449] (Fill [448], [447]) was seen in south facing Section 77 (Fig. 9) at 1.90m OD. This had gently sloping sides and a concave base.

7.6.5 Evidence of a possible quarry pit [443] (Fill [442] was seen in east facing Section 76 (Fig. 9) at 2.33m OD. This was obscured by the masonry of a later cess pit [289]

7.6.6 In Sections 73 and 74 (Fig. 9) a pair of intercutting quarry pits [411]/[422] (Fill [410]/[421]), [409]/[420] (Fill [408]/[419]) was recorded cutting into a layer of dark brown grey silty sand [404] which was observed at 1.99m OD. The earliest of the pits [411]/[422] was seen at 1.89m OD with gentle to steeply sloping sides. This was filled with a deposit of dark brown grey, sandy silt with occasional charcoal fleck inclusions. Quarry pit [409]/[420] was recorded at 1.93m OD, cutting through the centre of [410]/[421]. Filling the pit was a dark greyish brown, sandy silt deposit with occasional charcoal flecks. Steeply sloping to nearly vertical sides characterised the pit. The bases of both quarry pits were not seen during the investigations.

7.6.7 A large feature that has been interpreted as a quarry pit [439] (Fill [438]) was located *c.* 7.1m to the south west of [449] at 1.55m OD. This feature had an irregular shape and was truncated to the east and south by modern concrete footings. Post-medieval pottery dated 1550-1600 was recovered from the fill. This feature was not fully excavated.

7.6.8 The cut of a shallow quarry pit [354] (Fill [355], [350], [356]) was seen in section at the northwest corner of the site at 2.14m OD. This had gently sloping sides and an irregular base. The pit truncated the upper layers of a sequence of post-medieval dump deposits. The uppermost layer [348] was noted at 2.07m OD and was a dark brown sandy silt with occasional CBM fragments. This overlay a deposit [347] of mid brown sandy silt material

which in turn covered a 0.16m thick layer [345] of red brick fragments. At the base of the sequence was a deposit of mid yellow sandy clay [346] which was seen at 1.85m OD.

Horticultural/garden deposits and features [218] (Fill [217]), [221] (Fill [221]), [223] (Fill [222]) [225] (Fill [224]), [227] (Fill [226]), [230] (Fill [229]), [232] (Fill [231]), [236] (Fill [235]), [238] (Fill [237]), [244] (Fill [243]), [403] (Fill [402]), [416] (Fill [415])

7.6.9 In the northwest part of the excavation area a group of horticultural/garden features were observed in section between 2.3m OD and 1.73m OD. Some of these were seen to be intercutting. The characteristics of the pits were varied, the sides ranged from gently to steeply sloping and the bases, where present, were concave.

7.6.10 Features [232] and [230] were cut into a layer of light greyish brown sand [234], with occasional inclusions of charcoal flecks, at 1.75m OD (Fig. 9 Section 64). Circa 0.4m to the north features [236] and [238] (not illustrated) were noted cutting into a light brown sand layer [239] at 1.88m OD. This overlay light to mid yellow brown sand [240] which was recorded at 1.58m OD. Four possible planting beds, [221], [223], [225] and [227], were seen in section to the southeast (Fig. 9 Section 63).

7.6.11 Towards the centre of the site a number of features were noted cutting into earlier post-medieval soil horizons. The earliest of these soil horizons was a layer of light grey clayey sand [41] which was seen at 1.46m OD and contained pottery dated 1480-1650. This layer was sealed by a possible horticultural soil [23]/[28] at 1.85m OD. Pottery dated 1480-1600 and a brick fragment dated 1700-1850 were recovered from this layer.

7.6.12 An almost northeast to southwest aligned linear cut [52] (Fill [51]) was seen at 1.3m OD cutting into layer [23]/[28] (Fig. 5). Later truncations removed the upper portions of the cut leaving the surviving sides sloping gently to an almost even base. Pottery recovered from the fill was dated 1480-1600. A large quarry pit [25] (Fill [24]/[53]) with gentle to steeply sloping sides and a slightly curved base was seen truncating the eastern side of the linear. The pit was seen at 1.82m OD and was also truncated by later features. Backfilling the cut was a deposit of dark greyish brown, sandy silt [24]/[53] which contained clay tobacco pipe dated 1580-1740.

7.6.13 Circa 4.1m to the northeast was a linear planting cut [40] (Fill [39]) at 1.37m OD. The feature had steeply to gently sloping sides and a concave base. Another similar feature cut [38] (Fill [37]) was noted *c.* 0.4m to the north of and parallel to cut [40]. This was noted at a 1.4m OD with near to vertical sides and an irregular to flat base. The fills of both features were described as horticultural deposits of clayey sandy silt. Residual medieval pottery dated 1270-1350 was recovered from fill [37].

7.6.14 A small severely truncated rubbish pit [46] (Fill [45]) was recorded at 1.36m OD, truncating the southeast corner of cut [40]. The surviving portion of the cut was curved with gently sloping

sides and a concave base. A dark greyish brown sandy silt which contained pottery dated 1480-1600 filled the cut.

7.6.15 A shallow pit [55] (Fill [54]), that was only noted in section (not illustrated) at 1.86m OD, was seen truncating the eastern portion of cut [38]. The remnant of large pit [57] (Fill [56]) was also seen in section at 1.83m OD (not illustrated). This pit appeared to be truncated on all sides, and may be the remains of a quarry pit. These pits were sealed by a layer of mid grey silty sand made ground [58] with frequent pebble inclusions at 1.89m OD.

7.6.16 A large sub-circular pit [49] (Fill [43]) was recorded at 1.39m OD truncating both pit [25] and pit [46]. The sides of the pit were described as gently sloping and the base was flat. Pottery dated 1480-1600 was recovered from the fill. The pit was truncated by another sub-circular pit [20] (Fill [19]) which had near to vertical sides and an almost even base. This was noted at 1.8m OD and was filled with post-medieval demolition material which was dated to 1480-1800.

7.6.17 The untruncated portion of pit [25] was covered with a layer of dark greyish brown, sandy silt [15] which was seen at 2.09m OD. Pottery and clay tobacco pipe were recovered from this feature and dated 1680-1740.

7.6.18 Pit [20] and layer [58] were sealed by a layer of light yellowish brown silty sand which was recorded at 2.1m OD and contained clay tobacco pipe dated 1580-1740.

7.6.19 Approximately 5.0m to the northwest of pit [38] a small pit [403] (Fill [402]) was seen in section (not illustrated) truncating a layer of dark brown grey silty sand [404] at 1.99m OD. Only one side of the pit was observed and this sloped steeply to a concave base. The fill of the pit was a clay silt with occasional small CBM fragments and charcoal flecks. A very thin layer of compacted mortar [401] covered the pit. This layer was 0.02m thick and was seen at 2.01m OD. Another similar pit/garden feature [416] (Fill [415]) was noted in section *c*. 1m to the southwest at 1.97m OD. A layer of dark horticultural soil [414] which was seen at 2.05m OD covered the pit. Covering this was a thin compacted surface-like layer [400], noted at 2.10m OD.

7.6.20 In the west of the site a pit [252] (Fills [246], [248], 250]) was seen cutting a possible prehistoric sandy layer at 1.71m OD. The pit was seen in section (not illustrated) with steeply sloping sides and a concave base. The primary fill [250] was a light to mid greyish brown silty sand with occasional silty sand. This was sealed by a dark brownish grey sandy silt [248] with frequent flecks of charcoal and CBM fragments. A deposit of mid greyish brown, silty sand material [246] which had slumped into the pit covered [248].

7.6.21 A small sub-rounded pit [114] (Fill [113]) and a linear feature [127] (Fill [115]) were recorded in the southwest corner of the study area. The pit was seen at 1.34m OD with gently sloping sides and a tapered base. A dark bluish grey sandy silt [113] with frequent flecks of charcoal was noted filling it. The linear [127] was observed at 1.38m OD with moderately sloping sides

and a concave base. The fill [115] was a deposit of light yellowish brown silty sand containing occasional flecks of charcoal.

7.6.22 Circa 0.5m to the south of pit [114] the remnants of a heavily truncated feature [125] (Fill [124]) was seen in section at 1.68m OD (not illustrated). Where visible the sides appeared near to vertical and the base almost flat. The fill consisted of silty sand with fragments of crushed CBM. To the west feature [125], was truncated by cut [120] (Fills [117], [118], [119]). The cut was recorded at 1.81m OD with a gently sloping eastern side, to the west it extended beyond the LOE and the base was almost flat. The fills were a series of post-medieval silts and sands with occasional CBM fragments and charcoal flecks. A layer of dumped material consisting of sandy silt material [116] was noted at 1.93m OD, covering cut [120].

7.6.23 Layers of horticultural type soils were noted in the northeast of the site. Similar sandy deposits [182] and [205] were seen at 1.61m OD and 1.78m OD respectively. These were described as dark yellow to greyish green silty sands with comparable thicknesses, which lay directly above the natural river sands. A thin layer of dark greyish brown silty sand [204] was seen at 1.9m OD covering layer [205].

7.7 **PHASE 4.2: Late 17th-18th Century**

Masonry Structures associated with Horwood Map 1792-99 (Figs. 6, 9, 10; Plates 1, 2, 3, 5)

7.7.1 Various masonry structures appeared to be associated with the properties seen on the Horwood Map of 1792-99.

Carteret Street (shown as Cartwright Street on map)

Walls [2/6**],** [208], [209], [213], [214], [253], [254], [255], [273], [294], [308], [310], [319]/[384]

Floors [12] [262], [303]

7.7.2 Groups of walls were noted in the northwest corner of the site. The most prominent of these groups included walls [208], [213], [214] and the possible base of a fireplace [209]. Walls [208] and [209] were on a NNE-SSW alignment. A return [214] was noted at the southern extent of [208] and this wall extended to the east [214]. These walls were seen between 2.12m OD and 2.08m OD respectively. Wall [208] was built with post-medieval sandy bricks. The return [214] included abraded sandy red bricks. To the north what has been interpreted here as a fireplace base [209] was recorded at 2.22m OD and contained re-used unfrogged sandy red bricks. Wall [213] was noted at the northern end of the fireplace at 2.24m OD.

7.7.3 The masonry appeared to be cut into a compacted layer of mid greyish brown sandy silt [211] with occasional flecks of charcoal and chunks of CBM. This was recorded at 2.10m OD and was either a make-up deposit for a floor or a working surface. Clay tobacco pipe dated 1730-1780 was recovered from this deposit. A possible surface deposit associated with this group

was seen at a high point of 2.13m OD. This was a layer of mid greyish brown sandy silt with frequent charcoal flecks of charcoal and occasional CBM and covered the area between wall [208] and fireplace [209] and the western LOE. Recovered finds included pottery, clay tobacco pipe and glass which was dated to the late 17th-early 18th century.

7.7.4 Circa 1.25m to the south of wall return [214] a group of three walls [253], [254], [255] were encountered between 1.96m OD and 2.12m OD. All three wall segments were built with similar unfrogged dark orange red bricks and the same light brown sandy chalk/lime mortar. Wall [255] was seen on a similar alignment as [208] and it too appeared to have a return, this time extending to the west. Walls [253] and [254] were parts of the same wall which a modern cut had truncated. The walls were observed cutting into different make-up deposits, either side of wall [255].

7.7.5 To the east of wall [255], the make-up deposit was a soft layer of light yellow grey silty sand [259], noted at 2.12m OD. To the west the make-up consisted of firm to compact dark grey brown clayey silt material [256] recorded at 1.96m OD. This overlay another deposit interpreted as make-up [258].

7.7.6 A floor remnant [262] was noted *c.* 2.25m to the south of wall [255] which was noted at 2.09m OD. This comprised re-used post-medieval sandy red bricks bonded with a light brown yellow chalk/lime mortar.

7.7.7 Another group of walls [308], [310], [319]/[384], [294] and a floor [303] were encountered 3m to the east of wall [214]. These represented the surviving remains of the former basement that walls [209], [213], [214] were the western extent of. Wall [310] was seen at 2.10m OD and was the most southerly of the group. Wall [310] was built with unfrogged red brick bonded with a grey mortar.

7.7.8 A fragment of floor [303] associated with the basement was recorded at 2.1m OD and comprised unfrogged orange/red bricks bonded with a light yellowish grey lime mortar. The floor was bedded on a deposit of sandy silt [305] with very frequent charcoal flecks and occasional mortar chunks. Pottery dated 1580-1700 and clay tobacco pipe fragments dated 1680-1710 were recovered from the bedding layer. An E-W Wall [294] which consisted of five courses of similar bricks bonded with a mid-greyish lime mortar, was built on top of the floor. The top of the wall was noted between 2.44m OD and 2.23m OD. A layer of demolition material was noted against wall [294] and above that a mid greenish grey silty sand deposit [304] which contained clay tobacco pipe fragments dated 1580-1740.

7.7.9 Two thin make-up layers [307] and [320] were noted under [305] at 1.99m OD and 1.94m OD respectively. These were moderately compacted deposits of silts and sands with frequent to occasional inclusions of charcoal, mortar and small CBM fragments.

7.7.10 Sub-rectangular cut [321] (Fill [306]) with moderately sloping sides and a flat base was recorded at 1.88m OD under [320]. The purpose of the cut was uncertain but the fill was a light yellow clay which could possibly be a waterproofing deposit.

7.7.11 Wall segments [319]/[384] and [308] lay at the western end of [294]. The highest level was seen on wall [308] at 2.12m OD. The walls were on a similar E-W alignment and comprised unfrogged orange red bricks bonded with a grey mortar. These were probably once parts of the same wall but a modern truncation bisected them. The walls cut into a deposit of dark grey brown sandy silt material [309]/[311]/[317] containing moderate charcoal flecks and lumps. In section wall [319]/[384] was seen sitting on a thin layer of mid greenish yellow silty sand [383].

7.7.12 A heavily truncated layer of crushed red brick [325]/[363]/[368] was seen, between 1.8m OD and 1.84m OD, to the north of [319]/[384], [308] and to the east of [208]. The layer probably represented the remains of a former basement floor or the bedding for a floor. This layer was sealed by a series of silts and sands, [322], [340], [342], [343], and [360], interpreted here as surface make-up deposits. Pottery dated late 16th century to the 18th century, clay tobacco pipe dated 1680-1710 and 18th-century glass were recovered from layers [340], [342] and [343].

7.7.13 Circa 3m to the northeast of floor [303] the truncated remains of wall [273] was seen at 2.36m OD. This was on a N-S alignment and comprised re-used unfrogged red bricks bonded with a light greyish lime mortar. The wall was truncated to the east and north by modern concrete footings.

7.7.14 A possible property boundary wall [2]/[6] was located *c*. 11m to the south of [273]. The wall was truncated in the south by a later brick cistern [7] and to the north by modern deposits. The wall was seen between 2.35m OD and 1.95m OD on a NNE-SSW alignment cutting into a dumped deposit of dark brown silty clayey sand [9]. Under the dumped material and *c*. 0.5m to the west a small section of heavily truncated floor [12] was encountered at 2.08m OD.

Dartmouth Street

Walls [128/193], [129], [141], [167], [168], [171], [177], [179], [180], [181], [194], [365]

7.7.15 On the eastern side of the site, masonry and make up deposits associated with the various properties that once fronted Dartmouth Street were encountered.

7.7.16 The most prominent of these features was a group of masonry structures seen in the southeast corner of the site. This group included walls [128]/[193], [129], and [141]. They were all constructed using unfrogged red bricks.

7.7.17 Wall [128]/[193] was almost L-shaped with a curved inner face (Plate 1), possibly to house a spiral staircase. The wall was seven courses high (0.52m) and was seen at 2.28m OD. To the south, the wall cut into a layer of mid to dark grey brown silty sand [140], which had a top level

of 1.77m OD. The surface of this deposit was quite compacted with patches of mortar, suggesting trample from the construction. Recovered finds included pottery dated 1680-1800 and clay tobacco pipe dated 1680-1710. To the north the wall cut through a layer of mid greenish brown silty sand [190] which contained occasional charcoal flecks and oyster shell, at 1.59m OD.

7.7.18 A series of make-up layers comprising silts and sands [137], [138] and [139] were noted above layer [140]. These layers ranged from 0.03m to 0.15m thick and contained small fragments of building material and mortar.

7.7.19 Two sections of masonry were observed abutting the southern faces of wall [128]/[193]. The larger of the two was a substantial brick infill [129] which was recorded between 2.42m OD and 2.43m OD. This lay against the inner curve of wall [128] on an ENE-WSW alignment. The masonry was constructed from re-used post-medieval sandy red bricks and fragments of Kentish Ragstone rubble bonded with light whitish grey sandy lime mortar. The wall was part of the base of a staircase.

7.7.20 Circa 1m to the southwest of masonry [129] a smaller wall [141] was noted abutting [128] at 2.15m OD. The wall was two courses wide and two courses high and built with unfrogged red bricks. The wall may represent an internal threshold within the basement of the property.

7.7.21 Both walls cut into a light to mid grey brown silty clay [136] deposit which overlay [128] and the earlier make up deposits.

7.7.22 To the north a second group of masonry structures was recorded which was associated with the property to the north and included walls [167], [168], [171], [177] [194] and [365]. The building materials (brick fabrics and mortar) were similar to those of the previous group.

7.7.23 Walls [168] and [167] were on the same alignment and similar in form as the southwest portion of [128] and [141], respectively. The eastern/inner face of wall [168] was also curved but the northern portion of the wall had been totally removed by a 20th-century concrete intrusion (see Plate 2). It was noted that the most southerly point of [168] lay *c.* 5.5m to the north of a similar point (most southerly point) on wall [128].

7.7.24 Two deposits of silty sand [165], [169] material were seen above wall [167]. Both were 0.14m thick. The upper of the two was noted at 2.17m OD and contained clay tobacco pipe fragments dated 1680-1710.

7.7.25 Two walls, [171] and [365], were recorded *c.* 2.25m to the west of [168]. The relationship between them was unclear as they were separated by a modern concrete beam, but their alignments were similar and so were the materials used to build them. Wall [171] was seen at 2.41m OD and comprised unfrogged red brick bonded with a light greyish yellow mortar. Circa

0.75m to the west wall [365] appeared to be on an N-S alignment and was recorded at 2.16m OD.

7.7.26 E-W wall [177] was located *c.* 0.75m to the southeast of wall [167] at 1.85m OD. This comprised unfrogged post-medieval red bricks set in a dark sandy mortar.

7.7.27 The most southerly of this group was a one course wide and three courses high wall [194] which was seen at 1.6m OD. The E-W wall was constructed with unfrogged sandy red bricks set in a mid grey lime mortar.

7.7.28 A group of three walls [179], [180], [181] were revealed in the northeast corner of the site between 2.41m OD and 2.66m OD. The southernmost [179] was located *c.* 10.25m to the north of [168] and was orientated roughly E-W. It was constructed with unfrogged post-medieval red bricks set in a hard light greyish mortar. Circa 1m to the north were two segments of wall [180] and [181] built with a mixture of unfrogged deep red, orange red and yellow stock brick types set in a similar light greyish mortar. A gap of 1m lay between [180] and [181] suggesting that they may be the footings of an internal doorway. The orientation of these walls was different, they lay on a more ENE-WSW alignment as opposed to the nearly E-W alignment of [179].

7.7.29 Underlying the walls were a series of dumped deposits [183], [185], [187] and [188] with thicknesses that ranged from 0.1m to 1m. These were mainly silts and sands, except for [188] which was seen to be a 0.2m thick layer of charcoal. The highest level of this sequence was recorded at 2.4m OD on the top of [183].

7.7.30 The possible decayed remains of a timber floor [202] were revealed *c.* 1m to the south of [179], at a height of 2.25m OD. Post-medieval pottery dated 1630-1700 was recovered from this deposit. A mid brownish grey silty sand [203] was observed at 2.0m OD immediately under the remains of the floor.

7.8 PHASE 4.3: 19th Century

Masonry Structures associated with the Ordnance Survey Map 1868 (Fig 7, 9, 11; Plates 3, 6, 7, 8, 9, 10, 11, 12)

7.8.1 A northeast to southwest aligned boundary wall [274]/[287] which ran between Park Street and Dartmouth Street was the most prominent structure encountered in this phase. Other masonry features including walls, floors, soakaways, drains and a cesspit were seen across the area of investigation.

Carteret Street.

Walls [274/287], [312], [313]

Drain [207]

Floor [263]

7.8.2 Wall [274/287] was a northeast to southwest boundary wall that effectively cut the northern portion of site in two. The section of wall exposed during the works was seen at a high point of 2.42m OD in the north and a low point 2.31m OD in the south. The wall measured *c.* 8m in length and 0.75m wide and extended beyond the northern and southern LOE. It was constructed with unfrogged reused bricks bonded in a soft yellowish sandy lime mortar. A bedding deposit [446] and the construction cut [445] for the wall were recorded in section (Fig. 9 Section 77).

7.8.3 To the west of the wall along the western side of the site the heavily truncated remains of a brick drain [207] was seen between 2.11m OD and 2.0m OD. The drain was constructed with unfrogged bricks and ran *c.* 2.25m in a northwest direction from a modern concrete intrusion at its southern extent then turned and ran *c.* 2.5m in an almost northerly direction to concrete footings at the northern LOE. A slight decrease in level to the south was noted on the floor of the drain.

7.8.4 Circa 3.0m to the east of the drain five fragments of the same badly truncated tiled floor [263] were recorded at 2.25m OD. The floor comprised large red Flemish silty paver bricks set in a grey sandy mortar which was bedded on a deposit of firm mid yellowish grey silty sand [265].

7.8.5 Two sections of the same wall, [312] and [314] that had been cut in two by a modern intrusion were seen between 2.14m OD and 2.03m OD, *c.* 10m to the south of [263]. The wall was built of unfrogged red bricks bonded with a grey mortar.

Dartmouth Street

The masonry structures associated with the Dartmouth Street properties noted in this area included:

Walls [3], [50], [275], [283], [299], [323], [334], [393], [394] **Floors/surfaces** [4], [300], **Soakaways** [1], [5], [7], [8]/[26], **Cesspit** [288], **Drains** [16]/[27], [22]/[34], [145], [279], [280], [281], [291], [327], [328], [371], [368], [406]

7.8.6 In the north of the excavation area wall [275] was revealed close to the LOE abutting the eastern face of wall [274]/[287] at 2.44m OD. The wall comprised unfrogged red bricks bonded with a soft yellowish sandy mortar. Some of the bricks were seen to be re-used. Circa 1.5m to the east a section of wall foundation [283] consisting of unfrogged red brick was recorded at 2.01m OD. This was on a similar alignment to [275] and probably relates to the same property. To the east was located a small fragment of brick floor [300] at 1.91m OD. The bricks were unfrogged and dark purplish red in colour.

7.8.7 A group of masonry structures were noted *c.* 1.5m to the south of wall [275]. These included walls [323], [334], cesspit [288] and brick drain [406]. The oldest structure of this group was a

semi-circular brick drain [406] which was seen in in section extending to the southeast (Fig. 9 Section 73). The drain comprised unfrogged dark orange red bricks set in a dark to light grey sandy mortar. Covering the drain were two similar deposits of made ground material consisting of grey brown silty sands [335] and [336] seen at 2.3m OD and 2.29m OD respectively. It was not possible to say whether they were the same deposit as the construction cut [423] for wall [323] and its return [334] bisected them.

7.8.8 Wall [323] ran almost perpendicular to boundary wall [274]/[287] and was noted at 2.24m OD. It was constructed of abraded unfrogged red bricks and unglazed peg and pan tile set in a grey sandy mortar. The wall was truncated to the east by modern intrusions and to the west by the construction cut [389] of a brick cess pit [288]. The return [334] was constructed of narrow unfrogged red bricks bonded with a similar mortar and ran parallel to the boundary wall and was located at the western edge of [323].

7.8.9 Brick-lined cesspit [288] was sub-rectangular measuring 2.0m (N-S) x 1.6m (E-W) x 1.31m (deep) and had a high point of 2.05m OD. Three phases of repair or rebuild were noted during the investigations. The sides were nearly vertical and it was constructed using unfrogged red bricks set in a dark grey sandy mortar. Post-medieval pottery dated 1660-1700 was recovered from the construction backfill [390] of the feature. The primary fill was an organic silt deposit [338] which was encountered at 1.04m OD and was 0.3m thick. Various fragments of pottery dated 1700-1720, clay tobacco pipe dated 1700-1740 and early 18th-century glass were recovered from it. Two copper-alloy pins (<26>, <27>), a bone curtain ring <28> and an ivory handle <29> were also recovered from this fill.

7.8.10 A rebuild [289] of the cesspit reduced the width but increased the height slightly. The masonry now measured 1.6m x 1.6m and the highest level was 2.23m OD. The rebuild contained unfrogged burnt red bricks set in a grey mortar. Tile cladding [290] was seen on the west and east sides of the rebuild at 2.23m OD. This cladding comprised red peg tiles set in a yellowish lime mortar. On the west side where the cladding abutted wall [274]/[287] it had a more permanent appearance. The fill associated with this rebuild was a silt [339] rich in organic material.

7.8.11 A final phase of rebuilding was a brick repair [333] seen above the southern wall of [288] at 2.37m OD (see Plate 6). Five courses of unfrogged red brick bonded in a dark grey sandy mortars were revealed. The final fill was a finds rich clay silt deposit [286] including pottery dated 1800-1820, clay tobacco pipe stems dated 1580-1740 and a large number of late 18th-century glass vessels together with corroded copper-alloy coins, a button <22>, and an ivory syringe nozzle <17>. The finds suggest that the cesspit went out of use in the 19th century.

7.8.12 Circa 7m to the south of the cess pit wall [3] was located. This was truncated to the west and was on an almost NW-SE alignment. A possible return [50] was noted *c*. 0.5m to the south of

its eastern edge. The return was almost perpendicular but the corner where the two would have met had been removed by a later intrusion. They were both constructed of similar unfrogged red bricks bonded with a light yellow brown sandy mortar and were recorded at 2.34m OD and 2.37m OD respectively. The walls appeared to enclose a yard surface [4] consisting of unfrogged red bricks and recorded at between 2.34m OD and 2.28m OD, which was truncated to the west and south. A layer of coal dust [32] containing mid 19th-century pottery was noted sealing [4].

7.8.13 A group of drains and soakaways [1], [7], [8]/[26], [16]/[27], [22]/[34] were recorded to the west of [4]. The most northernly of these was a rectangular soakaway [1] which was built with unfrogged red bricks set in a grey sandy mortar. The top was noted at 2.35m OD and the floor at 0.75m OD. The soakaway extended beyond the LOE to the west. Feeding into it were the remains of a semi-circular brick-lined drain [22]/[34], the top of which had been removed by truncations. Circa 1.5m to the south a sub-circular soakaway [7] was seen at a high point of 2.3m OD and a low of 0.89m OD. The structure as constructed of unfrogged red bricks bonded with a clay mortar with chalk fragments. To the west a sub-circular brick structure [8]/[26] fed into drain [16]/[27] which then fed into soakaway [7]. The tops of these structures were truncated away by later intrusions. Structure [8]/[26] was built with similar bricks to [7] and had a top level of 2.30m OD and a floor level of 1.79m OD. Drain [16]/[27] was similar in appearance to [22]/[34] and was probably once a semi-circular structure. Similar brick fabrics and mortar were again noted. A later sub-rectangular brick-lined tank structure [5] was seen in this area at 2.35m OD. This structure appeared to be deliberately asymmetrical.

7.8.14 Wall [393] was located *c.* 1.5m to the east of and on a similar alignment to [3]. Mid purple red bricks in a yellowish grey mortar were recorded forming the fabric of the wall. A later wall [394] abutted its southern face. This followed the same alignment and was constructed from unfrogged red bricks in a light whitish grey mortar. The walls were recorded at 2.21m OD and 2.26m OD respectively.

7.8.15 Masonry revealed *c.* 6m to the northeast of [393] was the remains of wall [299] which was constructed of unfrogged red bricks set in a grey mortar. Only the western edge of the wall survived as the northern and eastern sections were removed by 20th-century concrete. This section of wall was seen at 2.23m OD.

7.8.16 The various drains that were encountered in the eastern part of site were built using similar building materials comprising unfrogged red bricks and grey mortar. The northernmost of the drains were the group that included [279], [280], [281]. These formed a heavily truncated H-shape which was aligned east to west with a drop to the south (see Plate 8). Drain [291] was located *c.* 1m to the south of [281] and lay on a north to south alignment. It was truncated to the north and south by modern concrete and descended from 1.94m OD in the south to 1.84m OD in the north.

7.8.17 Circa 2.0m to the south a group of four drain segments [327], [328], [368], [371] was noted. Drain [328] ran in a northwest to southeast direction and the other three appeared to feed into it (see Plates 9 & 10).

7.8.18 The most southernmost of the drains [145], was encountered *c.* 5m to the southeast of [328]. Only the floor and north wall survived truncation by later concrete footings. The floor of the drain was noted at 1.89m OD (see Plate 11).

7.9 **PHASE 5: 20th Century (Fig. 8)**

7.9.1 Structures dating from the 20th century were recorded in the west, east and north of the site. These structures represent the interior modifications of the properties during this period. They were all built using deeply frogged yellow stock bricks sitting on grey concrete foundations. In the southwest of the site brick footings [101] and [121] were seen sitting on grey concrete footings [102] and [122] respectively.

7.9.2 In the northeast, wall [212] was noted cutting into [213]. To the east of this, wall [276] was observed abutting the eastern face of boundary wall [275].

7.9.3 The most easterly of the structures [143], [148], [149], [150] were seen in the southeast corner of the excavation area.

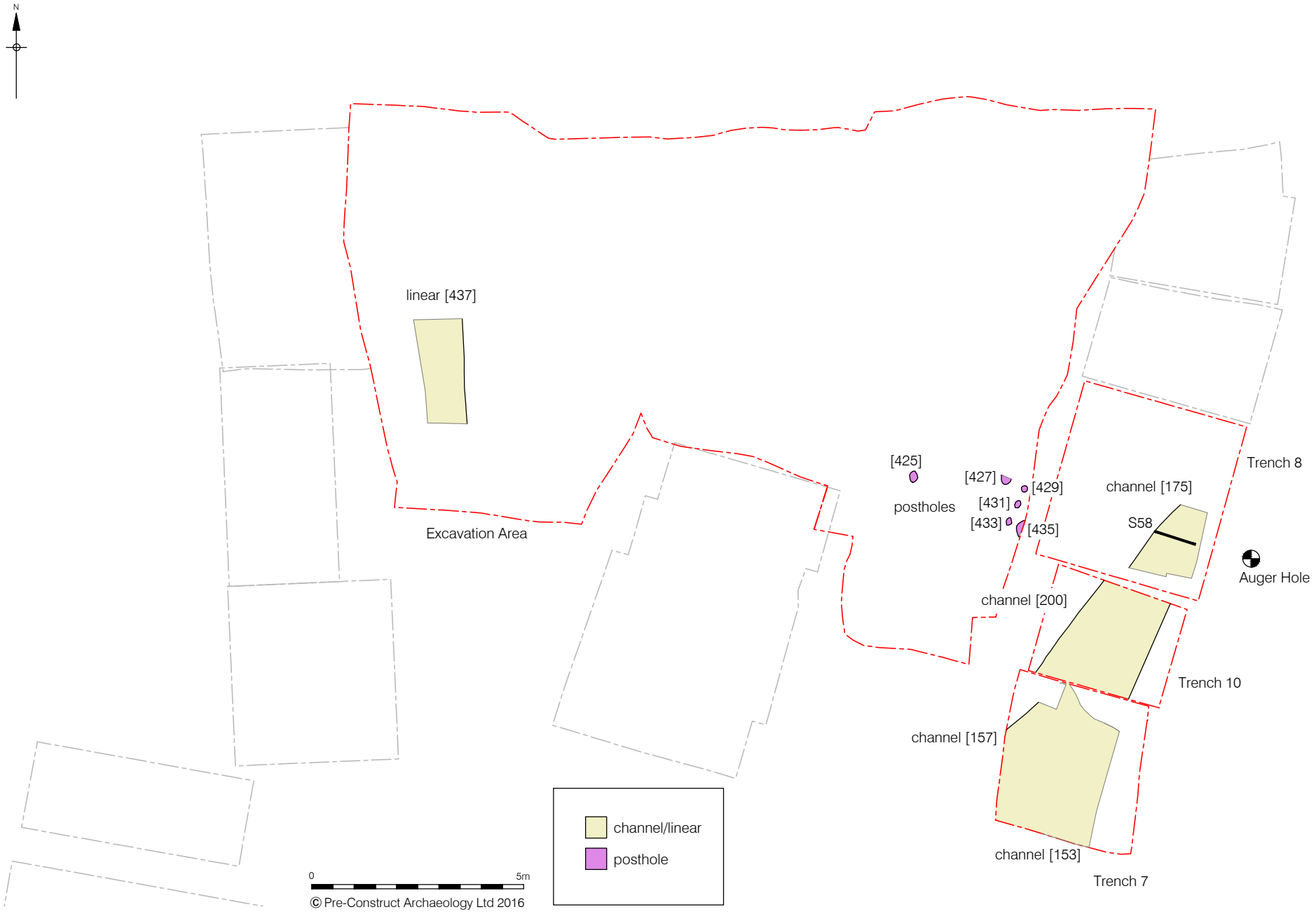


Figure 3
Phase 2: Prehistoric
1:125 at A4

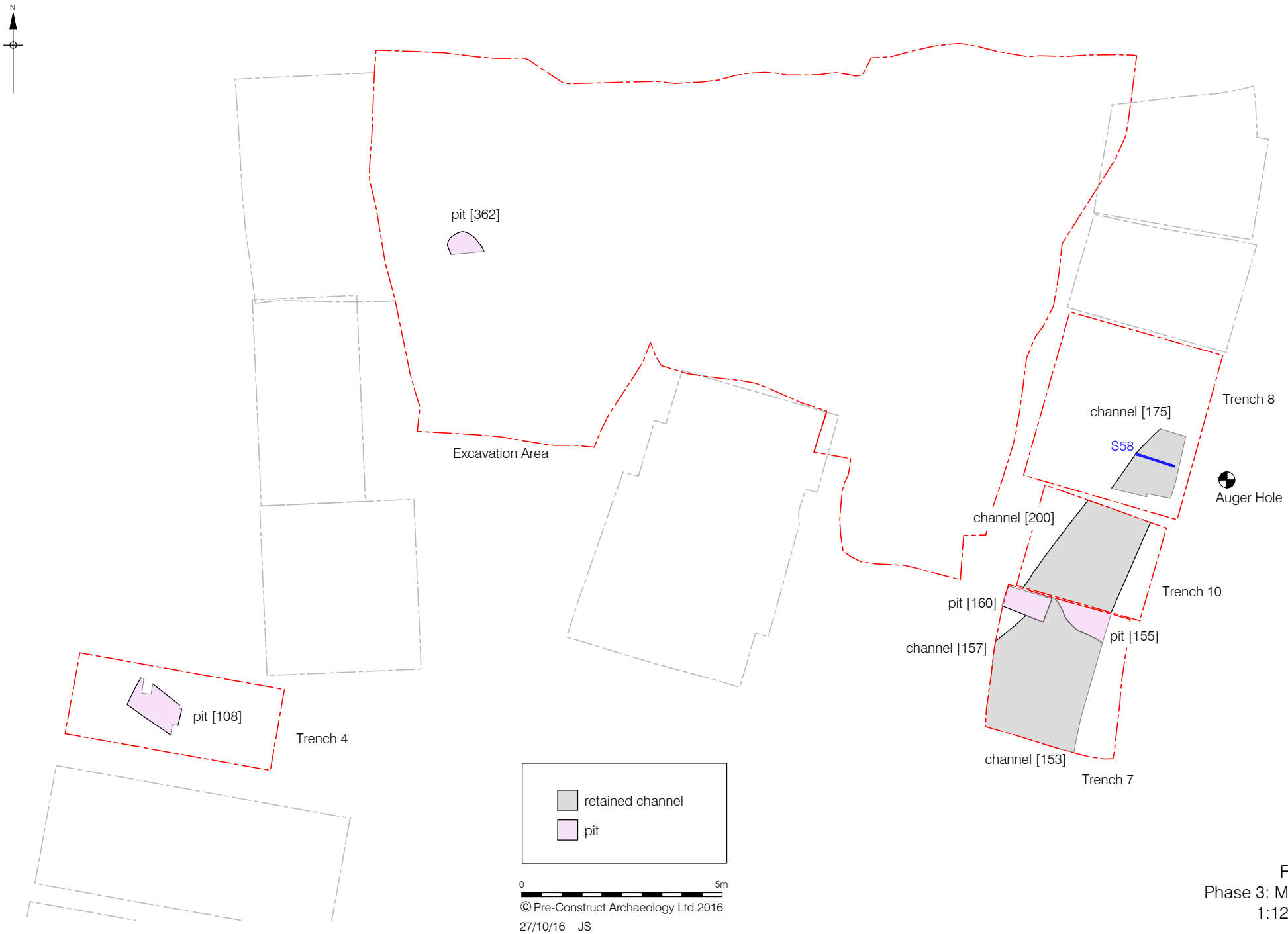


Figure 4
Phase 3: Medieval
1:125 at A4

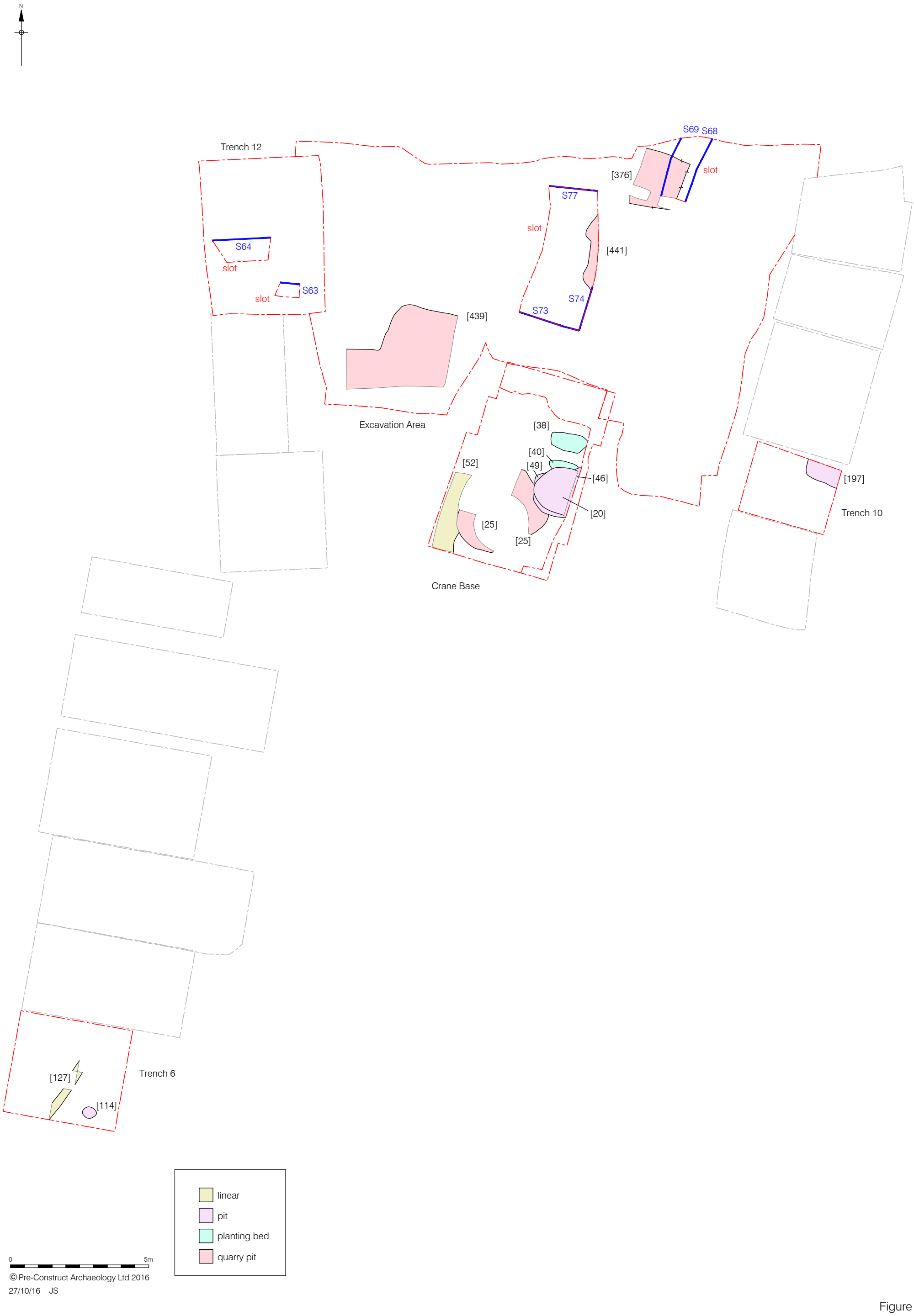
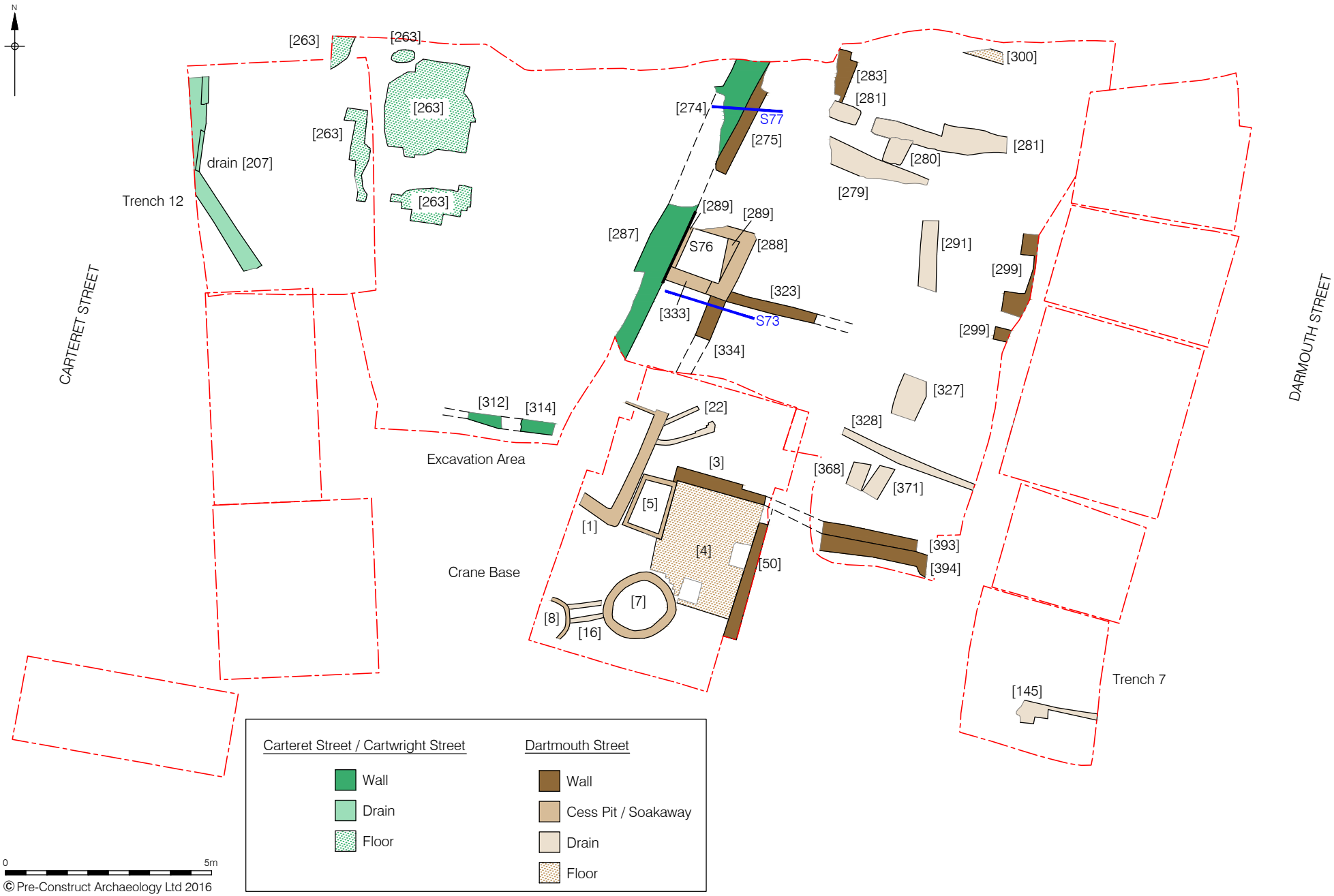


Figure 5
Phase 4.1: Quarry Pits and Horticultural Features
1:125 at A3

Figure 6
Phase 4.2: Masonry Structures associated with Horwood Map 1792-99
1:125 at A4

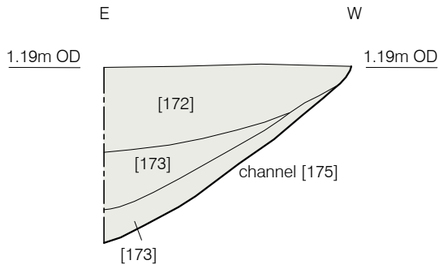


27/10/16 JS

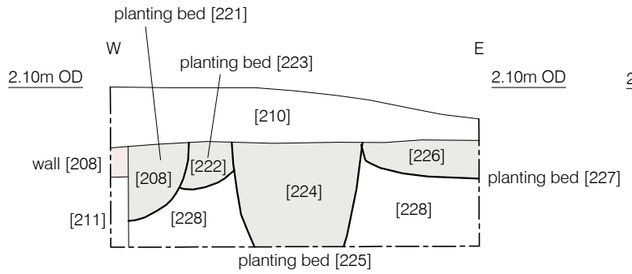
Figure 7
Phase 4.3: Masonry Structures associated with the Ordnance Survey Map, 1869
1:100 at A4

27/10/16 JS

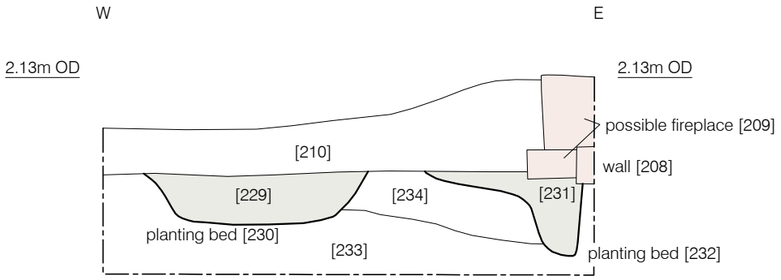
Figure 8
Phase 5: 20th Century
1:125 at A3



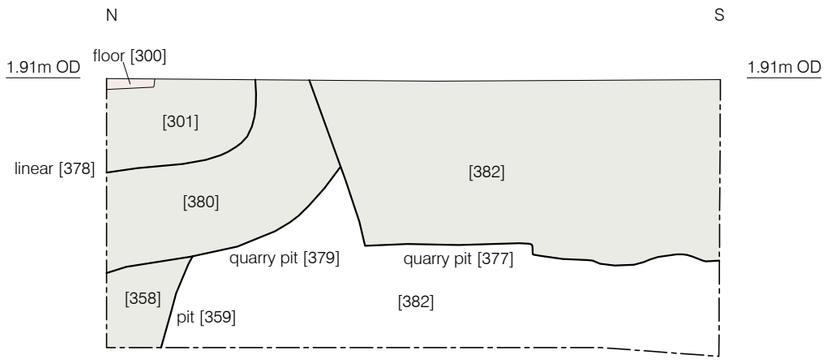
Section 58
Trench 8
North Facing



Section 63
Trench 12
South Facing

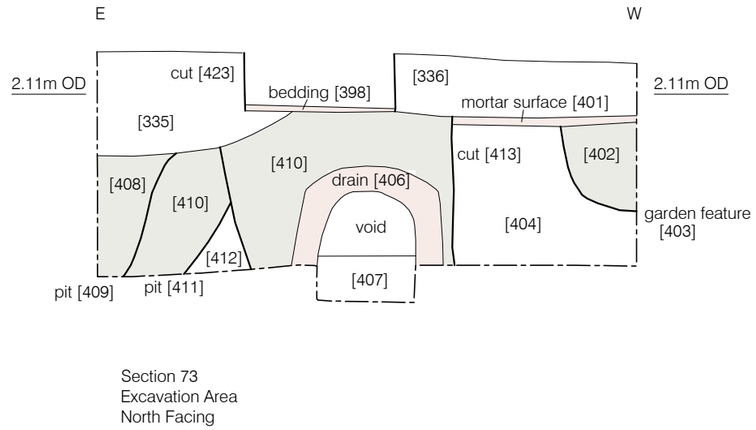


Section 64
Trench 12
South Facing

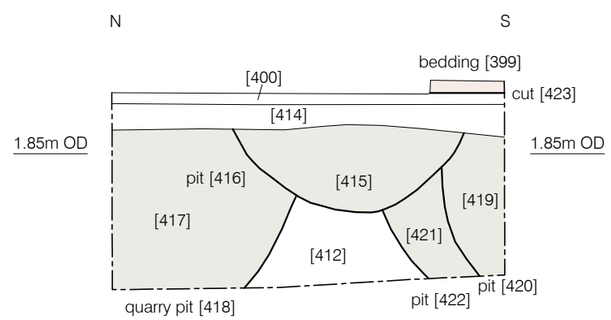


Section 68
Excavation Area
West Facing

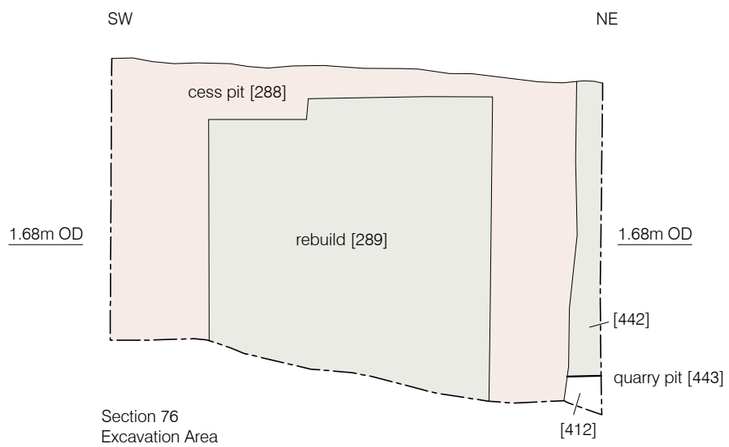
Section 69
Excavation Area
East Facing



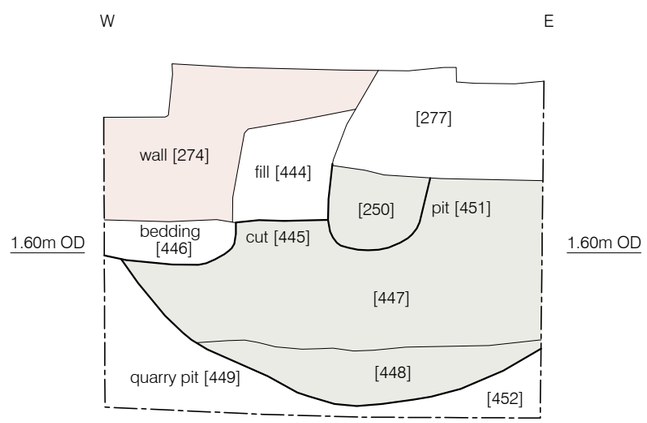
Section 73
Excavation Area
North Facing



Section 74
Excavation Area
West Facing



Section 76
Excavation Area
Southeast Facing



Section 77
Excavation Area
South Facing

cut feature
masonry

0 1m

27/10/16 JS

Figure 9
Sections
1:25 at A3

Plates

Plate 1 Walls [128], [129], [141] looking NW. Scale 0.4m

Plate 2 Walls [167], [168] looking NW. Scale 0.4m

Plate 3 Walls [208], [209], [213], [214] and drain [207] looking northwest. Scale 0.4m

Plate 4 Medieval ditches [157], [153], channel [155]/[175]/[200] and cut [160], looking north. Scale 0.4m

Plate 5 Wall [177] and channel [155]/[175]/[200] looking south

Plate 6 Cesspit [288] and rebuilds [289] and [333] looking northeast, wall [274]/[287] in foreground. Scale 0.4m

Plate 7 Cess pit [288] and drain [406] in foreground, wall [274]/[287] and cesspit rebuild [289] in background looking west. Scale 0.4m

Plate 8 Truncated Drains [279], [280], [281] looking east. Scale 0.4m

Plate 9 Drains [327], [328] in the foreground and wall [365] in background, looking east. Scale 0.4m

Plate 10 Drains [328], [368] and [371] looking southeast. Scale 0.4m

Plate 11 Drain [145] looking east showing later footings [149] and [150]. Scale 0.4m

Plate 12 Soakaways [1] and [7] and horticultural features/pits, looking west. Scale 1m

Plate 13 Quarry pits [376], [377], [379] looking east. Scale 0.4m

8 PHASED DISCUSSION

8.1 Phase 1: Natural

8.1.1 This phase represents the natural drift archaeology encountered across the site. The works revealed this to be a sequence of alluvial sands which were noted at an untruncated high point of 1.92m OD in the west of site sloping to 1.05m OD in the east, the location of a palaeochannel (see below).

8.2 Phase 2: Prehistoric

8.2.1 The largest prehistoric feature was a palaeochannel running along the eastern side of the site which measured as exposed at least *c.* 8.4m in length by 2.4m wide although it continued beyond the northern, southern and eastern LOE. The lowest fills were radiocarbon dated to 9131-8766 cal BC (see Appendix 9). It is possible that this channel forms part of the lower reaches of the River Tyburn. The original course of the lower part of the Tyburn has been much debated, with suggestions that the main course ran south from Buckingham Palace to near Vauxhall Bridge and a possible eastern arm running eastwards and splitting in two around Westminster Abbey to form Thorney Island (Barton 1996, 36). Recently it has been postulated that the whole eastern arm of the Tyburn does not exist and the features depicted on various 16th-century maps are only drainage ditches (Donovan 2016). However, the channel revealed on the current site is located exactly where one of the eastern arms is depicted on the Geological Survey Map of London of 1936 (Donovan 2016, fig. 5) and the fact that the earliest fills date back to the Mesolithic period would suggest that the feature is a stream channel rather than a ditch. It would seem to provide evidence that the eastern arm is more than a series of drainage ditches.

8.2.2 Possible prehistoric activity was noted in both the west and east of the site. In the east this was represented by a group of six shallow sub-rounded to sub-circular postholes, five of which appeared to form a regular pattern. A fragment of struck flint and a sherd of prehistoric pottery were recovered from the layer of silty sand that covered the postholes. To the west of the site was a shallow linear feature from which burnt flint was recovered.

8.2.3 These features and artefacts demonstrate that there was a limited amount of activity adjacent to the channel during the prehistoric periods.

8.3 Phase 3: Medieval

8.3.1 Features and deposits dating to the medieval period were encountered across the site.

8.3.2 The large channel along the eastern side of the site was apparently backfilled or migrated to the east at this time, as the fills of the feature, as revealed on the site, contained pottery dated to 970-1100, 1000-1150 and 1050-1100, which interestingly is the time of the great rebuilding

of Westminster Abbey, begun by Edward the Confessor (Thomas *et al.* 2006, 47) when a great deal of work would have been required further to the east to prepare a marshy, low-lying environment for large scale construction works.

8.3.3 Otherwise activity in the medieval period consisted merely of a few isolated pits which would suggest that the area was open land at this time.

8.4 **Phase 4: Post-Medieval**

8.4.1 What has been interpreted here as horticultural deposits (and features) and quarry pits represented the earliest phase of post-medieval activities encountered during the investigations which were dated to the 16th and 17th century. These were seen mainly in the northern portion of site, but isolated features were recorded in the southwest and east also.

8.4.2 The grouping of quarry pits in the north and the grouping of horticultural features seen in the middle of the site may represent a boundary between those properties that fronted Carteret Street and those on Dartmouth Street. The horticultural features that were recorded during the investigations were probably related to the gardens of these properties.

8.4.3 Masonry structures associated with the basements of properties that fronted Carteret Street and Dartmouth Street dominated the next period of development seen within the study area. Analysis of the recovered artefacts (i.e. pottery, brick and mortar samples) indicated that there were two sub-phases of construction. This is also apparent in the historic map overlays (see Figs. 10 & 11), where certain structures appeared to be associated with properties on the Horwood Map 1792-99 and some with the Ordnance Survey Map 1869.

8.4.4 On the Horwood Map overlay, walls associated with the two most northerly of the properties can be plainly seen. Walls [214] and [310] are possibly components of the wall that separated the two properties. The overlay suggests that internal elements of the property were also present. These included the fireplace base [209], possible internal partition wall [208], wall [213] and the compacted floor make-up deposit [211]. Other structures associated with this property were seen to the east of [208], included walls [308], [319]/[384], [294], [273] and a remnant of floor [303].

8.4.5 Wall [2]/[6] is possibly a remnant of the rear wall of the more southerly of the two properties. To the west two small sections of red brick floor [12] and [262] were recorded on similar levels. Other internal elements of this property included walls [253], [254] and [255].

8.4.6 On the Dartmouth Street side of the site brick structures and make-up deposits associated with the four northern properties shown on the Horwood Map were recorded. On the map the properties are numbered 6-9. Wall [179] may be remnant of the south wall of Number 6 Dartmouth Street and [180] and [181] may be part of an internal division or even doorway in the basement.

8.4.7 The possible remains of a badly decayed timber floor [202] were seen *c*. 1m to the south of [179] was the only deposit that was encountered within the footprint of Number 7.

8.4.8 To the south brick structures [167], [168], [171], [177], [194] and [365] appeared to be associated with Number 8. Structures [167] and [168] appeared to mirror those of [128]/[193] and [141] to the south and probably served the same purpose, the base of a spiral staircase perhaps. The other walls are possibly internal partition walls in the basement of the property.

8.4.9 Walls [128/[193], [129] and [141] seem to be associated with Number 9. As stated above [128]/[193] and [141] probably served the same purpose as [167] and [168]. Wall [129] has been interpreted as a brick infill that may have acted as the base of a staircase or whatever structure was associated with [128/193].

8.4.10 The most prominent structure associated with the second period of construction was the boundary wall [274]/[287] that separated those properties on Carteret Street from those on Dartmouth Street. This ran diagonally between the two sets of properties and is very apparent on the 1869 Ordnance Survey Map (see Fig. 11).

8.4.11 On the Carteret Street (west) side of the boundary wall the structures that were encountered were associated with the western of the two properties that fronted Park Street. Two sections of the south-eastern party wall [312] and [313] were recorded. To the north segments of the tiled floor [263] of the basement were encountered. West of this the remains of a heavily truncated brick-lined drain [207] were seen extending beyond the LOE.

8.4.12 A greater concentration of structures was noted to the east of [274]/[287], this possibly reflects the fact that more properties occupied this area of site. The majority of these structures were the brick-lined drains associated with these properties. A brick-lined cesspit [288], and brick soakaways [1], [5], [7] and [8]/[26] were noted to the immediate east of [274]/[287] in the case of the cesspit, it abutted the east face of the wall. On the Ordnance Survey Map of 1869 (Fig. 11) there are areas to the rear of the properties, maybe yards, in which these structures appear to be located.

8.4.13 The cesspit yielded the greatest number of finds and small finds of any feature encountered during the investigations. These ranged in date from the 18th to 19th centuries. Three phases of repairs or alterations to the structure were noted and it probably fell out of use in the 19th century. A semi-circular brick-lined drain [406] was seen on the southern face of the cesspit, it is thought this was an earlier structure and probably did not feed into the cesspit, but may have been utilised to drain the pit. These structures were probably associated with the second property just south of the one that fronted Park Street.

8.4.14 To the south the large rectangular soakaway [1] was fed by drain [22]/[34]. This appeared to be associated with the third and fourth properties at the northern end of Dartmouth Street. To the south of the soakaway a group of drains [8/]2[6], [16]/[27] and circular soakaway [7] seem

to be only associated with the fourth property. A later sub-rectangular brick-lined tank-like feature [5] was noted to the east of the southern half of [1]. The close proximity of these structures suggests that they might have been linked and may have even fed into a larger sewer/drain not seen during the excavations.

8.4.15 Possible segments of the party wall between the third and fourth properties were recorded. These were walls [3], [393] and [394], with [394] being slightly later and possibly acting as a repair or support for [393]. Wall [5] lay to the east of [3] and appeared to be perpendicular to it. This lines up well with the rear wall of the fourth property on the 1869 Ordnance Survey Map (Fig. 11). To the immediate east of this was a brick yard surface [4]. Drain [145] to the west was also associated with this property.

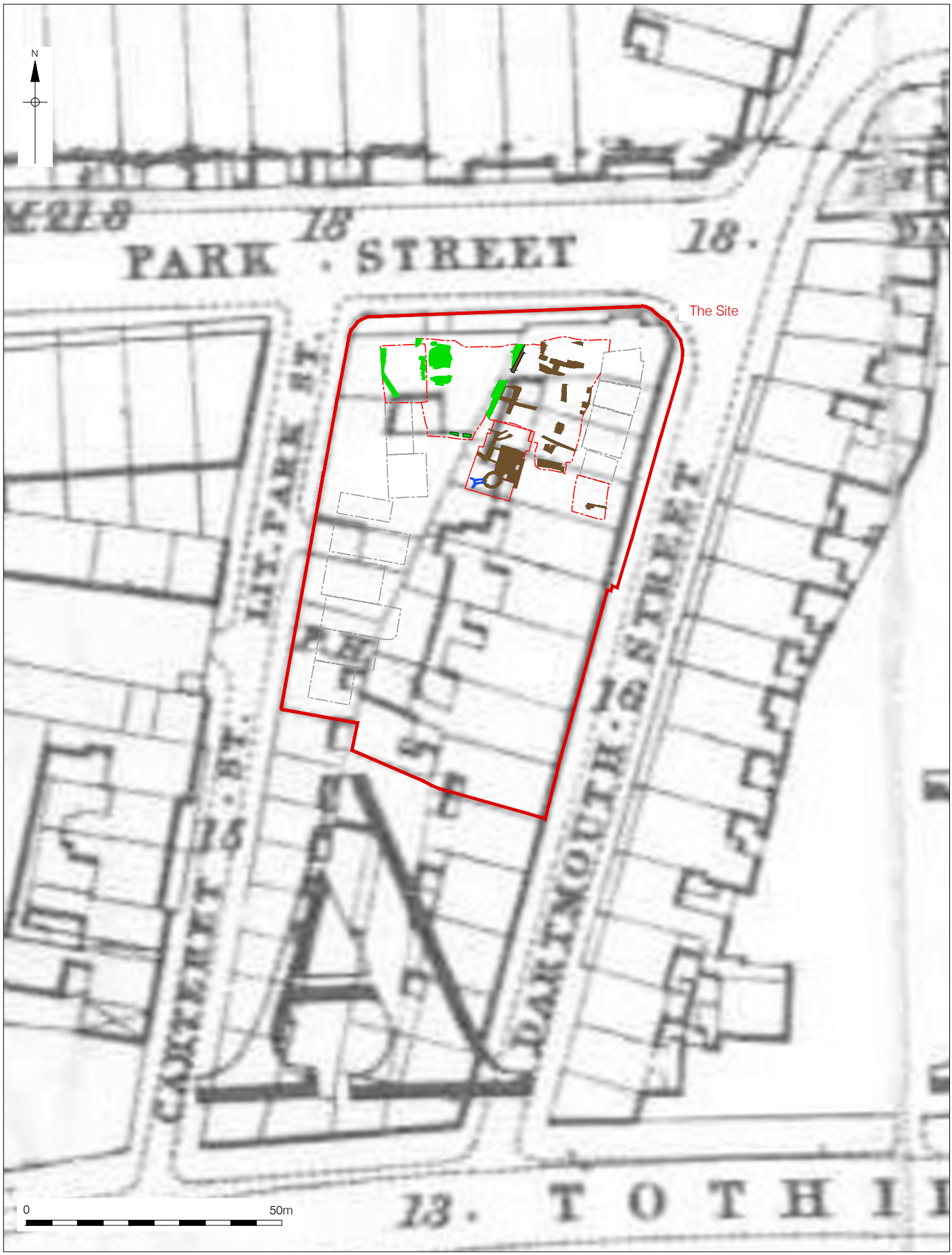
8.4.16 To the north of [394] drains [327], [328], [368] and [371] appeared to be associated with the third property. At the rear of this property, wall [334] appeared to be part of a possible exterior yard wall, this was the thicker wall shown on the 1869 map and lined up with the eastern wall of the cesspit [288]. Wall [323] appeared to be the party wall separating the second and third properties on the street.

8.4.17 Remnants of a possible internal wall [299] and drain [291] are the only structures associated with the second property.

8.4.18 Walls [275], [283], floor [300] and drains [279], [280], [281] were associated with the property that fronted Park Street.

27/10/16 JS

Figure 10
Phase 4.2: Features overlain onto Horwood, 1792-99
1:500 at A4



27/10/16 JS

Figure 11
Phase 4.3: Features overlain onto Ordnance Survey,1869
1:500 at A4

9 RESEARCH QUESTIONS

9.1 ORIGINAL RESEARCH QUESTIONS

The excavation's aims and objectives as outlined in the Written Scheme of Investigation were as follows (Hawkins 2015a):

9.1.1 What is the nature and level of natural topography?

The natural across the site comprised a yellow brown alluvial sand which was observed at a high point of 1.92m OD in the west of site sloping to 1.05m OD in the east. A large palaeochannel revealed along the eastern side of the site may be part of the eastern arm of the River Tyburn.

9.1.2 Was there any evidence of prehistoric activity on the site? What was the nature of this activity and where on site was it encountered?

Evidence of prehistoric activity was noted in the east and west of the study area. In the west a linear feature possibly the base of a ditch type feature was recorded. The fill of the feature yield fragments of burnt flint. To the east a series of postholes were seen forming a regular pattern, suggesting a human presence on the site during this period. The earliest fills of the palaeochannel were dated to the early Mesolithic period.

9.1.3 Was there any evidence of medieval activity on site and what was the nature of this activity?

The majority of the evidence for medieval activity came from the latest fills of the large channel on the east of the site. Pottery dates suggest that at least part of this feature had fallen out of use by the 11th to early 12th century. In the west of the site medieval soil horizons and two pits were encountered.

9.1.4 What evidence of post-medieval activities were encountered during the investigations?

The majority of activities seen during the investigations are post-medieval in nature. The earliest of these were the quarry pits and horticultural features revealed across the site. Two building phases dating to the 18th and 19th centuries relating to the properties that occupied the site were recorded. These consisted of walls, floor surfaces, drains, soakaways and a cesspit.

9.1.5 Did any remains of the Three Johns public house survive and what were they?

The Three Johns public house was located in the southwest corner of the site where Trenches 2, 5 and 6 were situated. No archaeological remains were uncovered in these trenches.

9.1.6 What are the latest deposits identified?

The latest activities encountered on the site date from the second half of the 20th century and are associated with modifications to the properties that occupied the site.

9.2 REVISED RESEARCH QUESTIONS

After the archaeological investigations the following Research Questions might be posed:

Does the channel found along the eastern part of the site form part of the River Tyburn?

Has there been any references to the channel that ran along Dartmouth Street?

How does the evidence of prehistoric activity encountered during the investigations fit in with activities of this period encountered in the wider area?

Can any further documented details of the people who resided at the properties encountered on the site be gathered?

10 CONTENTS OF THE ARCHIVE

The Paper Archive:

		Excavation / Watching Brief	
		Drawings	Sheets
Context Sheets			417
Plans	1:20	79	124
Sections	1:10	31	33

The Photographic Archive:

	Excavation / Watching Brief
Digital Format	446

The Finds Archive

Pottery	6 boxes
Lithics	1 box
Clay Tobacco Pipe	1 box
Glass	4 boxes
Small Finds	35 objects
CBM/Stone	8 crates
Animal Bone	5 boxes

(Box - standard archive box = 0.46m x 0.19m x 0.13m)

Samples	Buckets	Power Auger
9	21	1

11 IMPORTANCE OF THE RESULTS, FURTHER WORK AND PUBLICATION PROPOSAL

11.1 Importance of the Results

11.1.1 The results are of local importance as they add to the topography and greater picture of development in the area.

11.1.2 The channel may form part of the eastern arm of one of London's lost watercourses, the River Tyburn. The course of the river is still poorly understood (Barton 1996, 36; Donovan 2016) and any archaeological remains are of the utmost importance in confirming its actual course. The recording of the feature on the present site may provide evidence for the eastern arm which has been hotly disputed in the past.

11.1.3 Only limited evidence of prehistoric and medieval activity was found on site, consisting of ditches and pits and postholes. The evidence of prehistoric activity does, however, add to the overall picture of this area of London during this period.

11.1.4 The majority of activities took place during the post-medieval period. Walls, drains, a cesspit and soakaways associated with the properties that occupied the study area during the 18th and 19th centuries were encountered across the site. These remains provide evidence for the large scale development of the area during this period.

11.2 Further Work

General

11.2.1 An attempt will be made to refine the dating of the masonry structures encountered by further analysis of the construction materials. Further analysis of the documentary research will attempt to link the inhabitants of the buildings to the remains found on site.

Lithics

11.2.2 The small quantities of material and the high levels of disturbance mean that the interpretational value of this assemblage is limited and no further analytical work is warranted. However, it does have the potential to contribute to wider understanding of prehistoric activity in the area and a brief description should be included in any published accounts of the excavations.

Pottery

11.2.3 A short pottery report is required for the publication of the site and it is recommended that three vessels are illustrated and that 28 vessels are (reconstructed where necessary) and

photographed as group shots of the pottery found in fills [286] and [338]. These illustrations will supplement the text.

Clay tobacco pipe

11.2.4 The assemblage has some potential to add to the knowledge of the local clay tobacco pipe industry or demonstrate what was being marketed to the area and also to inform upon the life style of the inhabitants of the study area. It is recommended that a short publication report is produced on the clay tobacco pipes and three bowls should be illustrated to supplement the text.

Glass

11.2.5 Very few, if any glass assemblages have been published in the immediate vicinity of the study area. It is recommended that a short publication text is prepared on the glass and that this should be supplemented with illustrations of fifteen vessels.

Ceramic Building Material

11.2.6 No further work is required for the building material assemblage.

Small finds

11.2.7 The metal and small finds form an integral component of the archaeological evidence and should, where relevant, be included in any further publication of the site. The finds from Queen Anne's Gate include a small amount of significant finds relating to properties and households on site from the early modern period and through to the 19th century. A number of corroded metal objects would require further x-raying to aid full identification; they include possible residual late medieval finds. Following publication, iron nails and undiagnostic metal objects may be discarded.

Animal Bone

11.2.8 The potential for further work is restricted by the small size of assemblage. No further work is recommended.

Environmental

11.2.9 The bulk samples contained a moderate amount of archaeobotanical material, in the form of wood charcoal, seeds and burnt grains, the analysis of which could provide further information on both the environment of the site, as well as industry and local resource use. Sample <1> contained a particularly diverse assemblage; with both identifiable charcoal, and seeds and grain being discovered, as well as a number of marine shells, which could be interpreted as a dietary component during the post-medieval period. Further assessment of the marine shell is not required, as the assemblage is not sizeable enough to be statistically significant, however further analysis and interpretation of the botanical material may prove

useful when establishing an environmental profile for the site. Sample <4>, with its high concentration of charred grain, seeds and macroscopic plant material is also recommended for further assessment, as it may help us to understand the types of activity that are being carried out in and around the site. Of particular interest from a cultural perspective is sample <7>, due to the abundance of industrial waste products it contains; and as such this sample should be referred for specialist examination. Radiocarbon dating of the core sample has shown that the deposits cover a period from the early Mesolithic to the Anglo-Saxon period. Although the preservation of pollen and spores in this sequence is generally poor, the data from viable sections may still be of interpretive value when looking at the developing landscape and the local impact of anthropogenic activity during these periods. Therefore, whilst a high-resolution assessment is not recommended at this stage, a comprehensive species count for a selection of the better-preserved samples should be undertaken in the future, as well as additional radiocarbon dating of one or more samples, in order to further refine the chronology of the sequence.

11.3 Publication Proposal

11.3.1 The site will be published as an article in *London Archaeologist*. The format the article will follow is that of a typical publication report and will focus on the large channel and its relationship to the River Tyburn and the later post-medieval development of the site which will be linked to documentary research. It will have the following headings:

- Introduction
- Archaeological and historical background
- Archaeological evidence, by phase
- Discussion

The illustrations will include:

- Location plans
- Phase plans
- Sections
- Photographs

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13 BIBLIOGRAPHY

Barton, N., 1996. *The Lost Rivers of London*.

Boyer P., 2013. *An Archaeological Desk Based Assessment at 1 & 3 Queen Anne's Gate, 9, 11 & 12-15 Dartmouth Street and 12 & 14 Carteret Street, Westminster, SW1H 9BU.* Pre-Construct Archaeology Unpublished Report.

Cox, M.H. (ed.), 1926. Queen Anne's Gate (east), in *Survey of London: Volume 10, St Margaret, Westminster, Part I: Queen Anne's Gate Area*, 78-81. *British History Online* http://www.british-history.ac.uk/survey-london/vol10/pt1/pp78-81 [accessed 28 September 2016].

Donovan, D., 2016. The River Tyburn and Thorney Island. *London Archaeologist* 14 (9), 245-249.

Hawkins H., 2015a. *Written Scheme of Investigation for an Archaeological Watching Brief of Land at 1 & 3 Queen Anne's Gate, 9, 11 & 12-15 Dartmouth Street and 12 & 14 Carteret Street, Westminster, SW1H 9BU, City of Westminster.* Pre-Construct Archaeology Unpublished Report.

Hawkins H., 2015b. *An Archaeological Impact Assessment at 1 & 3 Queen Anne's Gate, 9, 11 & 12-15 Dartmouth Street and 12 & 14 Carteret Street, Westminster, SW1H 9BU.* Pre-Construct Archaeology Unpublished Report.

Montagu Evans, 2013. *Project Springfield, City of Westminster. Heritage Assessment: Pre-Application Material*. Montagu Evans Unpublished Report.

Skelton, A., 2015. *The occupants of Queen Anne's Gate, c1710-c1850.* Unpublished Research Report.

Weinreb, B. & Hibbert, C. (eds.), 1983. *The London Encyclopaedia*.

APPENDIX 1: CONTEXT INDEX

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
1	Crane Base	Masonry	Rectangular brick Soakaway	3.1	0.35	1.6	2.35	0.75	4
2	Crane Base	Masonry	North-South structural brick wall	1.9	0.35	0.4	2.35	1.95	4
3	Crane Base	Masonry	East-West structural brick wall shallow	2.25	0.32		2.34	2.27	4
4	Crane Base	Masonry	Yard brick surface	2.9	2		2.34	2.28	4
5	Crane Base	Masonry	Garden brick feature	1.32	1		2.35	2.21	4
6	Crane Base	Masonry	North-South structural brick wall, Part of [2]	0.8	0.34		2.32		4
7	Crane Base	Masonry	Circular brick Soakaway	1.45	1.55	1.4	2.3	0.89	4
8	Crane Base	Masonry	Circular waste water brick feature	0.8	0.8	0.5	2.3	1.79	4
9	Crane Base	Layer	Made ground layer	4.4	2.4	0.3	2.25		4
10	Crane Base	Layer	Made ground layer	3	1.7	0.3	2.3		4
11	Crane Base	Fill	Top fill of Soakaway [7]	1.55	1.45	0.9	2.3		4
12	Crane Base	Masonry	Brick floor Garden feature	0.8	0.7	0.07	2.08	2.01	4
13	Crane Base	Layer	Made ground layer	6	3.4	0.2	2.1	2.03	4
14	Crane Base	Fill	2nd fill of Soakaway [7]	1.3	1.2	0.5	1.42		4
15	Crane Base	Layer	Made ground/ dump layer	3.4	3	0.25	2.09	2.03	4
16	Crane Base	Masonry	Brick drain (walls) draining into Soakaway [7]	0.88	0.45	0.15	1.94	1.8	4
17	Crane Base	Fill	Fill of brick drain [16]	0.8	0.2	0.12	1.91		4
18	Crane Base	Fill	Fill of feature [18]	0.9	0.4	0.2	1.97		4
19	Crane Base	Fill	Fill of feature [20]			0.5	1.8	1.79	4
20	Crane Base	Cut	Pit with demolition fill	1.62	1.4	0.5	1.8	1.3	4
21	Crane Base	Fill	Backfill within Drain [22] Modern?	1.4	1.1	0.65	2.09		5

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
22	Crane Base	Masonry	Brick drain (walls) draining into Soakaway [1]	1.4	0.7	0.65	1.84	1.2	4
23	Crane Base	Layer	Horticultural soils	4.9	4.4	0.45	1.85	1.75	4
24	Crane Base	Fill	Fill of Cut [25]	1.8	1.1		1.82	1.76	4
25	Crane Base	Cut	Large Pit with domestic waste fill	3.22	2.96	1.03	1.82	0.27	4
26	Crane Base	Masonry	Brick drain (floor) revised, draining into Soakaway [1]	0.74	0.7	0.1	1.79	1.77	4
27	Crane Base	Masonry	Brick drain (floor) original, draining into Soakaway [1]	0.88	0.45	0.1	1.8	1.79	4
28	Crane Base	Layer	Horticultural soils	4	2.14	0.45	1.83	1.78	4
29	Crane Base	Fill	Fill of Soakaway [1]	2.5	0.9	1.35	1.75	1.73	4
30	Crane Base	Cut	Construction cut for Soakaway [7]	1.87	1.86	1.6	2.3	0.72	4
31	Crane Base	Cut	Construction cut for Brick Drain [22]	1.07	0.68	0.75	1.83	1.1	4
32	Crane Base	Fill	Deposit upon Brick floor [4]	1.5	1.5	0.05	2.35		4
33	Crane Base	Fill	Fill of Drain [22]	0.7	0.5	0.4	1.6	1.46	4
34	Crane Base	Masonry	Brick drain (floor) into Soakaway [1]	1.32	0.4	0.06	1.25	1.2	4
35	Crane Base	Cut	Construction cut for Soakaway [1]	3	1	2	2.35	0.38	4
36	Crane Base	Fill	Backfill of construction cut [36]			0.65	1.8		4
37	Crane Base	Fill	Fill of Cut [38]	1.28	0.44	0.75	1.4		4
38	Crane Base	Cut	Horticultural Planting Pit?	1.28	0.48		1.4	0.67	4
39	Crane Base	Fill	Fill of Cut [40]	1.1	0.43	0.4	1.37		4
40	Crane Base	Cut	Horticultural Planting Pit?	1.11	0.43	0.4	1.37	0.97	4
41	Crane Base	Layer	Light Grey Clayey Sand, Flood deposit	7.2	2.8	0.45	1.46	1.4	4
42	Crane Base	Layer	Loose Natural Sand	7.2	4.4		1.47	1.43	1

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
43	Crane Base	Fill	Fill of Cut [49]	1.48	1.28	0.1	1.39	1.3	4
44	Crane Base	Fill	Backfill of construction cut [30]				2.3		4
45	Crane Base	Fill	Fill of Cut [46]	0.4	0.18	0.26	1.33		4
46	Crane Base	Cut	Small Pit	0.42	0.41	0.26	1.36	1.13	4
47		Void							
48		Void							
49	Crane Base	Cut	Pit with silty clay fill	1.65	1.4	0.3	1.39	1.06	4
50	Crane Base	Masonry	North-South structural brick wall	2.78	0.32	0.57	2.37	1.8	4
51	Crane Base	Fill	Fill of Cut [52]	2.8	0.5	0.18	1.3		4
52	Crane Base	Cut	Linear Cut running north-south	1.54	0.66	0.28	1.3	1.02	4
53	Crane Base	Fill	Fill of Cut [25], SW quadrant	0.9	0.8	0.6	1.5		4
54	Crane Base	Fill	Fill of Cut [55]	1.02		0.28	1.86		4
55	Crane Base	Cut	Small Pit	1.02		0.28	1.86	1.54	4
56	Crane Base	Fill	Fill of Cut [57]	1.15	0.35	0.38	1.83		4
57	Crane Base	Cut	Large Pit	1.5	0.35	0.45	1.83	1.66	4
58	Crane Base	Layer	Made Ground Thin layer	1.85		0.06	1.89	1.83	4
59	Crane Base	Fill	Backfill of construction cut [35]	2.9	1	1.6	2.35		4
60	Crane Base	Fill	Lower fill of Soakaway [7]	1.2	1.14	0.2	0.94		4
61	Crane Base	Layer	Gravelly Sand Natural				0.19		1
100		Void							
101	2-5	Masonry	Yellow Brick wall footing enclosing a room	7	1.52	0.89	2.61	1.72	5
102	2-5	Masonry	Concrete foundation of wall [101]	7	1.4		1.66		5
103	2-5	Cut	Construction cut for wall [101] and concrete foundation [102]				1.66		5
104	2	Natural	Natural mid-yellow brown river sands seen in the base of Trench 2	3.06	1.9		1.65		1

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
105	1	Natural	Natural river sands	4	2		1.92		1
106	3	Layer	Demolition overburden	3.8		0.56	2.03		4
107	4	Fill	Mid to dark grey brown silty sand fill	1.36	0.8	0.31	1.72		3
108	4	Cut	Rectangular post-medieval pit	1.36	0.8	0.31	1.72	1.41	3
109	5	Natural	Natural river sands	4.3	2.7		2	1.3	1
110	3	Natural	Natural river sand	4.7	3.6		1.47	1.01	1
111	4	Natural	Natural river sand	4.2	2.05		1.73		1
112		Layer	Layer of demolition rubble, possible 20th century	2.5		0.56	2.33		5
113	6	Fill	Dark bluish grey sandy silt fill with frequent charcoal inclusions	0.5	0.42	0.21	1.34		4
114	6	Cut	Sub circular pit	0.5	0.42	0.21	1.34	1.13	4
115	6	Fill	Light yellowish brown/grey silty sand fill	3	0.34	0.25	1.38		4
116	6	Layer	Made ground deposit	1.7		0.25	1.93		4
117	6	Fill	Dark blackish grey silty sand fill with occasional lumps of mortar	1.7		0.1	1.78	1.67	4
118	6	Fill	Dark yellow grey silty sand with occasional charcoal flecks	1.7		0.05	1.75	1.58	4
119	6	Fill	Primary fill of [120]	1.7		0.3	1.72	1.53	4
120	6	Cut	Mid to late post-medieval cut seen in section 53	1.7		0.45	1.81	1.23	4
121	6	Masonry	Late post-medieval yellow stock brick wall footing	0.4		0.45	2.43		5
122	6	Masonry	Concrete footing for wall [121]	0.4		0.7	1.98		5
123	6	Cut	Construction cut for [121] and [122]	0.4		0.7	1.98	1.28	5

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
124	6	Fill	Backfill deposit with frequent crushed brick, possibly the remains of a robbed out wall	0.5		0.45	1.68	1.41	4
125	6	Cut	Possible construction cut for [124]	0.5		0.45	1.68	1.41	4
126	6	Natural	Natural river sands	3.7	2.4		1.41		1
127	6	Cut	Linear feature, possible gulley	3	0.34	0.25	1.38	1.13	4
128	7	Masonry	Curved wall	2	1.25	0.52	2.28	2.25	4
129	7	Masonry	Brick wall associated with curved wall [128]	1.66	0.62	0.45	2.42	2.33	4
130	7	Fill	Construction backfill for wall [129] in cut [131]	1.4	0.3	0.34	2.34		4
131	7	Cut	Construction cut for wall [129]	1.4		0.34	2.34	2.01	4
132		Void							
133		Void							
134		Void							
135		Void							
136	7	Layer	Dumped deposit that lay against wall [128]	0.68		0.34	2.34		4
137	7	Layer	Possible thin bedding layer or surface	0.95		0.03	2.01	1.99	4
138	7	Layer	Dumped deposit	0.95		0.15	1.98	1.96	4
139	7	Layer	Dumped deposit	0.95		0.1	1.84	1.81	4
140	7	Layer	A slightly compacted, mid to dark grey brown silty sand with occasional patches of mortar on the surface. Possibly the former ground surface	0.95		0.3	1.77	1.71	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
141	7	Masonry	One course deep threshold comprising unfrogged half bat red bricks	0.4	0.2	0.15	2.15		4
142	7	Layer	Thin surface or bedding deposit containing frequent inclusions of ash	1.38	0.95	0.03	2.35		4
143	7	Masonry	Wall remnant consisting of 1 course of yellow stock brick	1.02	0.4	0.07	2.36		5
144	7	Fill	Drain fill	1.92	0.34	0.33	2.21		4
145	7	Masonry	Red brick drain	1.92	0.54		2.28	1.89	4
146		Fill	Construction backfill for drain [145] in cut [147]	1.82			2.29		4
147	7	Cut	Construction cut for drain [145]	1.92			2.29		4
148	7	Masonry	Concrete foundation for [143]	1.18	0.67		2.29		5
149	7	Masonry	Concrete foundation for yellow stock brick footing	1.54	1		2.25		5
150	7	Masonry	Late post-medieval yellow stock brick footing	1.34	0.72	0.12	2.41		5
151		Void							
152	7	Fill	Fill of channel containing struck and burn flints	3	1.14		1.01	0.98	3
153	7	Cut	Cut of possible channel running parallel to Dartmouth street similar to [175], [200]	3	1.14		1.01		3
154	7	Fill	Dark purple grey sandy fill of cut [155]	1.4	0.7		0.96		3
155	7	Cut	The southern edge of a large cut feature	1.4	0.7		0.96		3

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
156	7	Fill	Light grey sandy fill of possible linear feature [157]	2.4	0.6	0.54	1.02		3
157	7	Cut	Cut for possible prehistoric linear ditch feature	2.4	0.6	0.54	1.02	0.48	3
158	7	Fill	Top fill of possible garden feature [160] consisting of dark brown/green/grey silty sand material	1.1	0.6	0.25	1.45	1.42	3
159	7	Fill	Organic peaty fill of [160]	1.1	0.6	0.35	1.17		3
160	7	Cut	Rectangular shaped cut, possibly a garden feature/pond? Of some description	1.1	0.6	0.6	1.47	0.83	3
161	7	Layer	light greyish yellow sandy deposit	3.2	2.25	0.28	1.47	1.41	3
162	7	Layer	Light greyish yellow/brown sandy deposit which contained struck and burnt flints	3.2	2.4	0.17	1.21	1.15	3
163	7	Natural	Fill of Channel associated with [200] and [175]. Lies under [157] and [153]. No sign of Channel edge	3.6	3.2		1.05		1
164	7	Cut	Construction cut for curved wall [128]. The base was seen in section 55	1.5		0.95		1.7	4
165	8	Layer	Post-medieval dumped deposit	2	1.37	0.14	2.04		4
166	8	Layer	Medieval dump deposit with cessy inclusions	2	1.35	0.21	1.84		3
167	8	Masonry	Brick threshold similar to [141]	0.62	0.22	0.17	2.16		4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
168	8	Masonry	Curved red brick wall similar to [128]	0.73	0.59	0.35	2.15		4
169	8	Layer	Post-medieval dumped deposit	1.15	0.76	0.14	2.17		4
170	8	Layer	Dark greeny brown silty sand deposit				1.65		3
171	8	Masonry	North south aligned wall comprising re-used red bricks, located on the western L.O.E. of the trench	1.24	0.22	0.7	2.41		4
172	8	Fill	Top fill of channel [175]	1.7	1.5	0.35	1.19		3
173	8	Fill	Fill of channel [175] containing burnt and struck flints		0.75	0.23	1.01	0.84	3
174	8	Fill	dark greyish purple sandy peat lower fill of channel [175]		0.85	0.12	1.11	0.61	3
175	8	Cut	Cut for possible channel similar/same as [153], [200]	1.96	1.5	0.7	1.19	0.5	3
176	8	Layer	Post-medieval dumped deposit	1.7		0.3	1.84		4
177	8	Masonry	East to west aligned post-medieval red brick wall	2.08	0.2	0.65	1.19	1.04	4
178	8	Natural	Natural river sands	3	1.9		1.19	1.04	1
179	9	Masonry	Curved wall	3.5	0.92		2.41		4
180	9	Masonry	Red brick wall possibly the west side of a doorway way, with [181] as the east. 5 courses visible.	1.42	0.78	0.35	2.66		4
181	9	Masonry	Wall similar to [180], the east side of a doorway	1.22	0.75	0.34	2.57		4
182	9	Layer	Yellow green sandy layer	3.8	1	0.5	1.61	1.54	4
183	9	Fill	Deposit of post-medieval dumped material	3.8	0.7	1	2.4		4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
184	9	Fill	Construction backfill for wall [179]	3.2	1.26	0.2	2.39		4
185	9	Layer	Dark grey brown clayey silt	0.62	0.65	0.9	2.47	1.54	4
186	9	Cut	Construction cut for curved wall [179]	3.2	1.26	0.2	2.4		4
187	9	Layer	Green sandy silt deposit	2.5		0.1	2.1		4
188	9	Layer	Layer of charcoal and coal fragments, possibly bedding or make-up	2.5		0.2	2		4
189	9	Natural	Natural river sands	4	3.8		1		1
190	10	Layer	Made ground deposit	3.2	2.2	0.61	1.57		4
191	10	Fill	Construction backfill for wall [193]	2.1	0.14		1.7		4
192	10	Cut	Construction cut for wall [193]. It is the northern edge of cut [164]	2.1	0.14		1.7		4
193	10	Masonry	The northern face of wall [128] seen in trench 7	2.1	0.2		2.1		4
194	10	Masonry	Remnant of an east-west wall once course wide	1.94	0.12	0.2	1.6		4
195	10	Cut	Construction cut for [194]	1.94	0.12	0.3	1.6	1.3	4
196	10	Fill	Backfill of [197]	1.28	0.66		1.67		4
197	10	Cut	Pit full of demo material	1.28	0.66		1.67		4
198	10	Fill	Top fill of channel [200]	2.6	2.4		0.98	0.75	3
199	10	Fill	Lower fill of [200]	2.6	0.6		0.66		3
200	10	Cut	Cut of channel similar to [155], [175]	3.05	2.6		0.98		3
201	10	Natural	Natural river sands	2.4	1.1		0.65		1
202	11	Layer	Peaty layer/possible decayed timber deposit			0.25	2.25		4
203	11	Layer	Floor make up deposit			0.1	2		4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
204	11	Layer	Sandy silt layer			0.12	1.9		4
205	11	Layer	Post-medieval dumped deposit			0.5	1.78		5
206	11	Natural	Natural river sands				1.25		1
207	12	Masonry	Remnant of red brick drain	4.2	0.5		2.11	2	4
208	12	Masonry	Dark orange red stepped wall footing. The return of [214]	2.1	0.4		2.12	2.09	4
209	12	Masonry	Possibly a brick fireplace	2.5	1.4		2.22	2.16	4
210	12	Layer	External surface	5.12	2.22	0.38	2.14		4
211	12	Layer	Internal surface	3.2	1.7	0.16	2.1	1.73	4
212	12	Masonry	20th century yellow stock brick wall	2.6	0.34		2.24		5
213	12	Masonry	Purplish red brick wall	1.26	0.6		2.24		4
214	12	Masonry	Return of wall [208] was four courses high	1.25	0.45	0.31	2.08		4
217	12	Fill	Fill of horticultural feature	0.37		0.18	1.73		4
218	12	Cut	Cut for a horticultural feature	0.37		0.18	1.73	1.54	4
219	12	Natural	Natural river sands	0.8		0.3	1.78		1
220	12	Fill	Fill of horticultural feature	0.25		0.3	1.85		4
221	12	Cut	Cut for horticultural feature	0.25		0.3	1.85	1.55	4
222	12	Fill	Fill of horticultural feature	0.18		0.2	1.85		4
223	12	Cut	Cut of horticultural feature	0.2		0.18	1.85	1.65	4
224	12	Fill	Fill of horticultural feature	0.5		0.42	1.85		4
225	12	Cut	Cut of horticultural feature	0.5		0.42	1.85	1.43	4
226	12	Fill	Fill of horticultural feature	0.67		0.15	1.88		4
227	12	Cut	Cut for horticultural feature	0.47		0.15	1.88	1.73	4
228	12	Natural	Natural river sands	1.7			1.85		1
229	12	Fill	Fill of horticultural feature	0.92		0.22	1.75		4
230	12	Cut	Cut for horticultural feature	0.92		0.22	2.32	2.1	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
231	12	Fill	Fill of horticultural feature	0.62		0.35	1.75		4
232	12	Cut	Cut for horticultural feature	0.62		0.35	1.75	1.41	4
233	12	Natural	Natural river sand	1.9			1.73		1
234	12	Layer	Sandy layer	0.82		0.27	1.75		4
235	12	Fill	Fill of horticultural feature	1.38		0.26	1.88		4
236	12	Cut	Cut of horticultural feature	1.38		0.26	1.88	1.62	4
237	12	Fill	Fill of horticultural feature	0.16		0.14	1.88		4
238	12	Cut	Cut of horticultural feature	0.16		0.14	1.88	1.74	4
239	12	Layer	Light brown sandy layer	2.7		0.36	1.88		4
240	12	Layer	Light brown sand	0.94		0.1	1.58	1.5	4
241	12	Natural	Natural river sand	3		0.74	1.66	1.47	1
242	12	Natural	Alluvial sand	1.2		0.08	0.94		1
243	12	Fill	Fill of horticultural feature	0.32		0.26	1.88		4
244	12	Cut	Cut of horticultural feature	0.32		0.26	1.88	1.62	4
245	13	Layer	Sandy layer with charcoal flecks and CBM	2.96		0.45	2.03		4
246	13	Fill	Top fill of [252]	1.12		0.36	1.71		4
247	13	Layer	Sandy layer with burnt flint	0.94		0.7	1.71	1.61	2
248	13	Fill	2nd fill of [252]	1.12		0.47	1.4		4
250	13	Fill	Primary fill of [252]	0.8		0.14	0.91		4
251	13	Natural	Natural river sands	4.25	3.8		1.01		1
252	13	Cut	Pit containing demolition deposits	1.16		1.38	1.71	0.77	4
253	14	Masonry	External wall	0.6	0.55		1.96		4
254	14	Masonry	Wall, possible external wall of pub	0.6	0.5		2.05		4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
255	14	Masonry	NE-SW aligned wall, relating to pub, possibly external	2.32	0.55		2.12	1.99	4
256	14	Layer	Internal surface make up deposit within walls [253], [254], [255]	0.6	0.88		1.96		4
257	14	Natural	Natural river sands	4.1	2.2		1.78	1.68	1
258	14	Layer	Floor surface make-up deposit	1.8	0.7		1.98		4
259	14	Layer	Sandy layer with charcoal flecks	2.4	0.6		2.12	1.99	4
260	14	Layer	Dark made ground layer	1.1	0.8		1.78		4
261	14	Layer	Possible medieval sandy layer	0.7	0.7		2.06		3
262	14	Masonry	Remnant of a red brick floor	0.72	0.35		2.09		4
263	Excavation Area	Masonry	Tile floor of pub	3.9	3.1		2.25		4
265	Excavation Area	Layer	Make-up deposit for floor [263]	2.74	2.7		2.23	2.18	4
268	Excavation Area	Layer	Crushed brick surface	1.36	1.12		1.8	1.79	4
269	Excavation Area	Natural	Natural river sand				1.77	1.68	1
270	Excavation Area	Layer	Dark brown/green silty sand with occasional charcoal flecks	3.04	2.52		1.76	1.75	3
272	Excavation Area	Layer	Layer of demolition material	1.02	0.68		2.37		4
273	Excavation Area	Masonry	N-S running wall	1.98	0.4		2.36	2.35	4
274	Excavation Area	Masonry	NE-SW aligned, 17th/18th century, wall, same as [287]	2.6	0.83	0.63	2.42	2.41	4
275	Excavation Area	Masonry	NE-SW aligned wall running parallel to [274]	2.72	0.3		2.44	2.43	4
276	Excavation Area	Masonry	20th century yellow stock brick wall	3	1.2	0.31	2.6	2.59	5

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
277	Excavation Area	Layer	Demolition deposit	1.2	0.5	0.45	2.29		4
279	Excavation Area	Masonry	Collapsed drain	2.6	0.6		2.11	1.98	4
280	Excavation Area	Masonry	Remnant of drain	0.65	0.55		2.08		4
281	Excavation Area	Masonry	Remnant of drain	4.4	0.67		2.08	1.91	4
282	Excavation Area	Fill	Fill of quarry pit [377]	4.28	3.5	0.76	1.96	1.91	4
283	Excavation Area	Masonry	NE-SW aligned wall	1.54	0.5		2.01	1.92	4
286	Excavation Area	Fill	Upper and later fill of rebuild of cesspit [288]	1.17	1.11	0.81	2.38	2.2	4
287	Excavation Area	Masonry	NE-SW aligned, 17th/18th century, wall, same as [287]	4.12	0.7		2.33	2.31	4
288	Excavation Area	Masonry	Brick cess-pit	2	1.6	1.31	2.05		4
289	Excavation Area	Masonry	Rebuild of cess-pit [288]	1.6	1.6		2.23	1.72	4
290	Excavation Area	Masonry	Red tile cladding inside cess-pit			0.6	2.23		4
291	Excavation Area	Masonry	Brick drain	1.7	0.45	0.3	1.9	1.84	4
292	Excavation Area	Fill	Fill of drain [291]	1.7		0.15			4
293	Excavation Area	Fill	Fill of drain [279]	2.6	0.4		2.11		4
294	Excavation Area	Masonry	Red brick wall footing	1.7	0.7	0.3	2.44	2.23	4
295	Excavation Area	Layer	Demolition dump	2.48	1.2	0.1	2.2	2.15	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
296	Excavation Area	Layer	Made ground	2.35	1.88		1.83	1.81	4
297	Excavation Area	Layer	Made ground	1.52	0.6		1.83		4
298	Excavation Area	Layer	Dark brown grey silty sand deposit	1.6	0.6		1.87	1.77	4
299	Excavation Area	Masonry	Wall remnant	2.9	0.62		2.23	1.84	4
300	Excavation Area	Masonry	Dark purplish red brick, floor remnant				1.91		4
301	Excavation Area	Fill	Fill of cut [378]	0.6		0.38	1.91		4
303	Excavation Area	Masonry	Brick surface	1.36	1.22	0.06	2.1	2.09	4
304	Excavation Area	Layer	Sandy deposit	1.6	0.96	0.2	2.1	2.02	4
305	Excavation Area	Layer	Bedding for [303]	1.72	1.48	0.07	2.02	1.99	4
306	Excavation Area	Fill	Clay waterproof packing in [321]	1.56	0.6		2.06	1.93	4
307	Excavation Area	Layer	Thin compacted deposit of light greyish brown, silty sand with frequent mortar and CBM fragments	1.44	1.32	0.06	1.99	1.95	4
308	Excavation Area	Masonry	Wall remnant	0.52	0.38		2.12		4
309	Excavation Area	Layer	Heavily truncated layer	0.35	0.15	0.15	2.08		4
310	Excavation Area	Masonry	Wall remnant	0.68	0.58		2.1		4
311	Excavation Area	Layer	Make up deposit	2.4	1.09		2.07		4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
312	Excavation Area	Masonry	E-W wall remnant same as [314]	0.8	0.44		2.03		4
313	Excavation Area	Layer	Demolition deposit	0.82	0.34		2.03		4
314	Excavation Area	Masonry	E-W wall remnant, same as [312]	0.8	0.3	0.22	2.14		4
315	Excavation Area	Layer	Demolition deposit	0.9	0.6		2.03		4
316	Excavation Area	Layer	Levelling deposit	1.9	1.38		2.1		4
317	Excavation Area	Layer	Levelling deposit	2.46	2.36		2.01		4
318	Excavation Area	Layer	Levelling deposit	0.45	0.35		2.01		4
319	Excavation Area	Masonry	E-W wall remnant	0.9	0.5		2.06		4
320	Excavation Area	Layer	Thin make up layer	1.5	1.2	0.05	1.94	1.93	4
321	Excavation Area	Cut	Cut filled with clay [306]	0.8	0.32	0.15	1.88	1.73	4
322	Excavation Area	Layer	Greenish sand layer with frequent charcoal flecks and CBM frags. Levelling layer	1.79	1.65	0.07	1.9		4
323	Excavation Area	Masonry	E-W wall remnant is return of [334]	2.2	0.25	0.5	2.24		4
324	Excavation Area	Void							
325	Excavation Area	Layer	Crushed brick surface	2.64	1.79	0.04	1.82		4
326	Excavation Area	Layer	Dark brown/green silty sand with occasional charcoal flecks	2.58	1.74	0.15	1.78	1.77	3
327	Excavation	Masonry	Brick drain	1.1	0.8	0.6	2.08	1.46	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
	Area								
328	Excavation Area	Masonry	Brick drain	3.4	0.3		2.06	1.66	4
329	Excavation Area	Layer	Greenish sand layer	2.66	1.02	0.23	2.08	2.01	4
330	Excavation Area	Fill	Fill of drain [328]				3.06	2.66	4
331	Excavation Area								
332	Excavation Area	Fill	Fill of drain [327]						4
333	Excavation Area	Masonry	E-W rebuild of cess-pit [288]	1.08	0.35	0.33	2.37		4
334	Excavation Area	Masonry	N-S return of wall [323]	1	0.4	0.27	2.3	2.27	4
335	Excavation Area	Layer	Demolition dump	2.2	1	0.42	2.29	2.27	4
336	Excavation Area	Layer	Demolition dump	2.12	1.24	0.24	2.27	2.14	4
337	Excavation Area	Natural	Natural river sands						1
338	Excavation Area	Fill	Fill of cess-pit [288]	1.03	0.8	0.3	1.04		4
339	Excavation Area	Fill	Lowest fill of cess-pit rebuild	1.1	1.1	0.08	1.12		4
340	Excavation Area	Layer	Demolition dump	2.2	1.4	0.12	2.05	2	4
342	Excavation Area	Layer	Mid greyish brown sandy silt layer	1.02	0.75	0.14	2.04		4
343	Excavation Area	Layer	Mid yellowish brown silty sand	2.4	0.7	0.14	1.94	1.92	4
344	Excavation	Natural	Natural river sands				1.77		1

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
	Area								
345	Excavation Area	Layer	Crushed red brick dump	1.6		0.16	1.85		4
346	Excavation Area	Layer	Yellow sandy clay layer	0.4		0.1	1.85		4
347	Excavation Area	Layer	Dump layer	2.4		0.13	1.91		4
348	Excavation Area	Layer	Dark brown sandy silt layer	2.4		0.2	2.07		4
349	Excavation Area	Layer	Light brown sand layer	1.1		0.14	2.17		4
350	Excavation Area	Fill	Fill of [354]	0.45		0.25	2.14		4
351	Excavation Area	Void							
352	Excavation Area	Void							
353	Excavation Area	Void							
354	Excavation Area	Cut	Possible quarry pit seen in section 67	0.78		0.25	2.14		4
355	Excavation Area	Fill	Primary fill of [354]	0.45		0.08	1.94		4
356	Excavation Area	Fill	Upper fill of [354]	0.5	0.08		2.09		4
357	Excavation Area	Fill	Fill of quarry pit [376]	2	1.6	1.1	1.88		4
358	Excavation Area	Fill	Fill of quarry pit [359]	1.1	0.54	0.23	1.17		4
359	Excavation Area	Cut	Quarry pit cut	1.1	0.54	0.6	1.17		4
360	Excavation	Layer	Demolition dump	2.9	0.9	0.1	1.9	1.86	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
	Area								
361	Excavation Area	Fill	Fill of pit [362]	0.92	0.6	0.35	1.8		3
362	Excavation Area	Cut	Pit cut	0.92	0.6	0.35	1.8	1.45	3
363	Excavation Area	Layer	Crushed brick surface	1.8	1.64	0.08	1.84	1.8	4
364	Excavation Area	Layer	Mid greyish yellow silty sand with occasional charcoal flecks	1.8	1.5	0.27	1.81		3
365	Excavation Area	Masonry	N-S truncated brick wall	0.8	0.5	1.11	2.16		4
366	Excavation Area	Cut	Construction cut for wall [365]	0.8	0.6	0.71	1.76	1.05	4
367	Excavation Area	Cut	Construction cut for drain [327]	1	0.8	0.6	1.99	1.39	4
368	Excavation Area	Masonry	Brick drain	0.75	0.5	0.24	2.16	1.66	4
369	Excavation Area	Cut	Construction cut for drain [369]	0.7	0.5	0.15	2.09	1.89	4
370	Excavation Area	Void							
371	Excavation Area	Masonry	Brick drain	0.84	0.4	0.36	1.81	1.79	4
372	Excavation Area	Fill	Fill of drain [371]						4
373	Excavation Area	Cut	Cut for drain [371]	0.8	0.45	0.49	1.87	1.38	4
375	Excavation Area	Layer	Remains of external surface	3.76	3		1.91	1.87	4
376	Excavation Area	Cut	Rectangular quarry pit	2	1.6	1.1	1.91		4
377	Excavation	Cut	Quarry pit	4.28	3.5	0.76	1.96	1.2	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
	Area								
378	Excavation Area	Cut	Linear cut seen by the north-eastern LOE	0.6		0.38	1.91	1.53	4
380	Excavation Area	Fill	Fill of quarry pit [379], same as [381]			0.8	1.88		4
381	Excavation Area	Fill	Fill of quarry pit [379], same as [380]			1	1.91		4
382	Excavation Area	Natural	Natural river sands				1.56		1
383	Excavation Area	Layer	Mid greenish yellow sandy silt, make up deposit			0.15	1.85		4
384	Excavation Area	Masonry	Possible brick floor	1.7		0.1	1.9		4
385	Excavation Area	Natural	Natural river sands	4.6	2.8		1.7		1
386	Excavation Area	Fill	Fill of linear prehistoric feature	2.5	1.13	0.15	1.64	1.58	2
387	Excavation Area	Layer	Layer of yellow brown sand with occasional sandstone fragments	0.76	0.74	0.08	1.62		3
388	Excavation Area	Natural	Natural river sands	1.7	1.4		1.01	0.99	1
389	Excavation Area	Cut	Construction cut for cess-pit [288]	2	1.6	1.64	2.38	0.74	4
390	Excavation Area	Fill	Construction backfill for [288]			1.31	2.1		4
391	Excavation Area	Natural	Natural river sands	3.6	3.3		1.6		1
393	Excavation Area	Masonry	Brick wall	2.32	0.3		2.21	2.2	4
394	Excavation	Masonry	Brick wall	2.6	0.52		2.26	2.25	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
	Area								
395	Excavation Area	Other	Post-medieval intrusion	0.43	0.3		0.78		4
396	Excavation Area	Other	Post-medieval intrusion	0.64	0.5		0.78		4
397	Excavation Area	Layer	Prehistoric layer	5	3.2		0.86	0.79	2
398	Excavation Area	Layer	Chalk bedding for [334], same as [399]	0.62		0.02	2.06		4
399	Excavation Area	Layer	Chalk bedding for [334], same as [398]	0.31		0.05	2.15		4
400	Excavation Area	Layer	Compacted surface	1.6		0.05	2.1		4
401	Excavation Area	Layer	Thin mortar surface	0.75		0.02	2.01		4
402	Excavation Area	Fill	Fill of garden feature [403]	0.3		0.36	1.99		4
403	Excavation Area	Cut	Garden feature	0.3		0.36	1.99	1.63	4
404	Excavation Area	Layer	Made ground	0.75		0.58	1.99		4
405	Excavation Area	Fill	Construction backfill for drain [406]	0.94		0.63	2.03		4
406	Excavation Area	Masonry	Drain running into/from? Cesspit [288]	0.61		0.55	1.81	1.26	4
407	Excavation Area	Fill	Fill of drain [406]	0.4		0.18	1.45		4
408	Excavation Area	Fill	Fill of cut [409], same as [419]	0.33		0.5	1.86		4
409	Excavation Area	Cut	Pit cut same as [420]	0.33		0.5	1.86		4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
410	Excavation Area	Fill	Fill of pit [411], same as [421]	0.35		0.5	1.89		4
411	Excavation Area	Cut	Pit cut same as [422]	0.35		0.5	1.89		4
412	Excavation Area	Natural	Natural river sands				1.67		1
413	Excavation Area	Cut	Construction cut for drain [406]	0.94		0.85	2.03	1.26	4
414	Excavation Area	Layer	Made ground	2.14	1.6	0.13	2.05		4
415	Excavation Area	Fill	Fill of pit [416	0.94		0.36	1.97		4
416	Excavation Area	Cut	Pit cut, garden feature	0.94		0.36	1.97	1.61	4
417	Excavation Area	Fill	Fill of quarry pit [418], same as [440]	0.75		0.65	1.95		4
418	Excavation Area	Cut	Quarry pit, same as [441]	0.75		0.65	1.95		4
419	Excavation Area	Fill	Fill of cut [420], same as [408]	0.25		0.58	1.93		4
420	Excavation Area	Cut	Pit cut same as [409]	0.25		0.58	1.93		4
421	Excavation Area	Fill	Fill of pit [422], same as [410]	0.25		0.45	1.8		4
422	Excavation Area	Cut	Pit cut same as [411]	0.25		0.45	1.8		4
423	Excavation Area	Cut	Construction cut for wall [323] and its return [334]	1.02	0.61	0.24	2.28	2.04	4
424	Excavation Area	Fill	Fill of prehistoric posthole [425]	0.26	0.2	0.14	0.74		2
425	Excavation Area	Cut	Prehistoric posthole	0.26	0.2	0.14	0.74	0.6	2

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
426	Excavation Area	Fill	Fill of prehistoric posthole [427]	0.22	0.2	0.08	0.94		2
427	Excavation Area	Cut	Prehistoric posthole	0.22	0.2	0.08	0.94	0.86	2
428	Excavation Area	Fill	Fill of prehistoric posthole [429]	0.14	0.12	0.05	0.99		2
429	Excavation Area	Cut	Prehistoric posthole	0.14	0.12	0.05	0.99	0.94	2
430	Excavation Area	Fill	Fill of prehistoric posthole [431]	0.16	0.14	0.04	0.95		2
431	Excavation Area	Cut	Prehistoric posthole	0.16	0.14	0.04	0.95	0.91	2
432	Excavation Area	Fill	Fill of prehistoric posthole [433]	0.18	0.14	0.03	0.94		2
433	Excavation Area	Cut	Prehistoric posthole	0.18	0.14	0.14	0.94	0.92	2
434	Excavation Area	Fill	Fill of prehistoric posthole [435]	0.4	0.2	0.11	0.95		2
435	Excavation Area	Cut	Prehistoric posthole	0.4	0.2	0.11	0.95	0.84	2
436	Excavation Area	Natural	Natural river sands	4.9	3		0.99	0.73	1
437	Excavation Area	Cut	Shallow prehistoric linear feature	2.5	1	0.14	1.57	1.43	2
438	Excavation Area	Fill	Fill of quarry pit [439]	3.8	3		1.55		4
439	Excavation Area	Cut	Quarry pit/s	3.8	3		1.55		4
440	Excavation Area	Fill	Fill of quarry pit [441], same as [417]	4		1.1	2.1		4
441	Excavation Area	Cut	Quarry pit, same as [418]	4		1.1	2.1	1	4

Context	Trench	Type	Description	Length	Width	Depth	Highest Level	Lowest Level	Phase
442	Excavation Area	Fill	Fill of quarry pit [443]			1.2	2.33		4
443	Excavation Area	Cut	Quarry pit			1.2	2.33	1.13	4
444	Excavation Area	Fill	Construction backfill for wall [274] in cut [445]	0.4		0.42	2.18	2.1	4
445	Excavation Area	Cut	Construction cut for wall [274]	0.4		0.42	1.74	1.55	4
446	Excavation Area	Fill	Bedding layer for wall [274]	0.54		0.18	1.74		4
447	Excavation Area	Fill	Upper fill of quarry pit [449]	1.7		0.68	1.9		4
448	Excavation Area	Fill	Primary fill of [449]	1.4		0.23	1.23		4
449	Excavation Area	Cut	Cut for quarry pit	1.7		0.9	1.9	1	4
450	Excavation Area	Fill	Clay fill of cut [451]	0.4		0.33	1.96		4
451	Excavation Area	Cut	Pit	0.4		0.33	1.96	1.61	4
452	Excavation Area	Natural	Natural river sands	3	1.78		1.6		1
453	Excavation Area	Layer	Mid brownish grey sandy silt dumped layer	1.2		0.15	1.5	1.33	4
454	Excavation Area	Layer	Orange sand layer	1.7		0.25	1.39	1.33	4
455	Excavation Area	Layer	Brownish grey sandy layer				1.19	0.99	2
456	Excavation Area	Natural	Natural river sands				1.7	0.86	1

APPENDIX 2: LITHIC ASSESSMENT

Barry Bishop

Introduction

The excavations at the above site resulted in the recovery of small assemblages of struck flint and unworked burnt stone. All of the pieces have been individually catalogued according to context which includes details of distribution, raw materials and condition, and where possible a suggested date of manufacture (Table 2). This report summarises the information contained in the catalogue and assesses the assemblage's archaeological significance and its potential to contribute to the further understanding of the nature and chronology of activity at the site. All metrical descriptions follow the methodology established by Saville (1980).

Quantification and Distribution

Type	Flake	Blade-like flake	Non-prismatic Blade	Flake fragment	Core	Retouched Implement	Burnt stone (no. >15mm)	Burnt stone (wt:g)
Number	3	2	1	2	1	1	44	344

Table 1: Quantification of Lithic Material from Queen Anne's Gate

The excavations at Queen Anne's Gate produced a total of 10 pieces of struck flint and just over 0.3kg of unworked burnt stone from a variety of features, which include palaeochannels and cut features dating from the prehistoric through to the post-medieval periods (Tables 1 & 2).

Burnt stone

A total of 344g of burnt stone were recovered, all of which comprises fragments of alluvial flint pebbles and cobbles. They had been burnt to a variable but mostly intense degree, causing them to change colour and become 'fire crazed'. The pieces were scattered in small

quantities within the palaeochannel and other features. They indicate hearth use at the site although the quantities are insufficient to suggest any deliberate heating of stone.

Struck flint

The ten struck pieces were made from flint of a variety of colours and textures, which along with the condition of remnant cortex indicates that the raw materials had been gathered from terrace gravel deposits, the nearest sources of which can be found immediately north of the site. Their condition was also variable but most pieces had experienced only slight chipping and abrasion, suggesting that even residual pieces had probably been recovered from close to where they were originally discarded.

No truly diagnostic types are present although the majority are the products of a systematic, blade-based reduction strategy that can be dated to the Mesolithic or Early Neolithic period. Only one true blade was recovered but two blade-like flakes are present and it is likely that the fragments also derive from blades. The only core came from quarry pit [376]; although minimally worked and lacking any preparation, this had also produced blades and their very narrow width may tentatively suggest a Later Mesolithic date. Some of the flakes are thicker and more casually produced, some even having the appearance of 'squat' flakes (re Martingell 1990; 2003), and these are perhaps more reminiscent of Later Neolithic or Bronze Age examples. The only retouched piece present, a short side-and-end scraper from the palaeochannel, may possibly belong to this phase of flintworking. Whilst scrapers were made throughout prehistory and notoriously difficult to date, this has a carefully retouched and symmetrical working edge, which is a trait most commonly encountered on Later Neolithic or Early Bronze Age implements.

Significance and Recommendations

The struck flint indicates periodic but probably very low key visiting of the site from at least the Mesolithic / Early Neolithic period. The presence of the burnt flint indicating this was accompanied with the use of hearths. The assemblage's main significance is that it contributes to the small but growing picture of prehistoric activity within the Westminster floodplain and along its gravel terraces. Numerous finds have been recorded from the area (e.g. Lacaille 1961; Andrews and Merriman 1986; Wilkinson *et al.* 2000, 21) although due to the later urban development most indications of prehistoric activity away from the river consist of small groups of artefacts recovered from disturbed or later contexts (e.g. Merriman 1989; Holder *et al*. 2000; Bishop 2003).

Unfortunately, the small quantities of material and the high levels of disturbance mean that the interpretational value of this assemblage is limited and no further analytical work is warranted. However, it does have the potential to contribute to wider understanding of prehistoric activity in the area and a brief description should be included in any published accounts of the excavations.

Bibliography

Andrews, D. and Merriman, N., 1986. A Prehistoric Timber Structure at Richmond Terrace, Whitehall. *Transactions of the London and Middlesex Archaeological Society* 37, 17-21.

Bishop, B.J., 2003. Lithic Assessment: An Archaeological Excavation at the Diana, Princess of Wales Memorial Fountain, Hyde Park, London. Pre-Construct Archaeology Unpublished Report.

Holder, N., Bowsher, D., Pitt, K., 2000. Across the Saxon Town: three new sites in Lundenwic. *London Archaeologist* 9 (6), 151-159.

Lacaille, A.D., 1961. Mesolithic Facies in Middlesex and London. *Transactions of the London and Middlesex Archaeological Society* 20 (3), 101-150.

Martingell, H., 1990. The East Anglian Peculiar? The 'Squat' Flake. *Lithics* 11, 40-43.

Martingell, H., 2003. Later Prehistoric and Historic Use of Flint in England, in N. Moloney and M.J. Shott (eds.), *Lithic Analysis at the Millennium*. University College London Institute of Archaeology Publications. London, 91-97.

Merriman, N., 1989. The flint from the National Gallery Extension, in R. Cowie and R. Whytehead, Excavations at the Peabody Site, Chandos Place and the National Gallery. *Transactions of the London and Middlesex Archaeological Society* 40, 129.

Saville, A., 1980. On the Measurement of Struck Flakes and Flake Tools. *Lithics* 1, 16-20.

Wlkinson, K., Scaife, R., Cameron, N., Sidell, J and Thomas, C., 2000. Holocene Environments in Westminster, in J. Sidell, K. Wilkinson, R. Scaife and N. Cameron, *The Holocene Evolution of the London Thames*: *Archaeological Investigations (1991-1998) for the London Underground Limited Jubilee Line Extension Project*. Museum of London Archaeology Service Monograph 5, 21-63.

Context	Ref.	Feature	Feature Date	Flake	Blade-like flake	Non-prismatic Blade	Flake fragment	Core	Retouched Implement	Burnt stone (no. >15mm)	Burnt stone (wt:g)	Colour	Cortex	Condition	Recortication	Suggested date range	Description
152		PC153	Nat							4	10	Unknown	None	Burnt	Unknown	Undated	Heavily burnt flint
152		PC153	Nat						1			Mottled dark grey	None	Slightly chipped	None	Meso-EBA	Short end scraper made on a thick flake with well executed steep scalar retouch around convex distal end and extending along right margin. 32x22x11mm.
156		D157	Med							7	75	Unknown	Smooth rolled	Burnt	Unknown	Undated	Variably burnt flint
162		L162	Med							5	64	Unknown	Smooth rolled	Burnt	Unknown	Undated	Heavily burnt flint
162		L162	Med				1					Translucent dark grey	Rough but weathered	Slightly chipped	None	Undated	Distal end of a flake
162		L162	Med		1							Translucent mid brown	None	Slightly chipped	None	Meso/ENeo	Distal end of a possible blade
173		PC175	Nat							3	28	Unknown	Ancient thermal scar	Burnt	Unknown	Undated	Heavily burnt flint
174	<4>	PC175	Nat							5	21	Unknown	Smooth rolled	Burnt	Unknown	Undated	Heavily burnt flint

Context	Ref.	Feature	Feature Date	Flake	Blade-like flake	Non-prismatic Blade	Flake fragment	Core	Retouched Implement	Burnt stone (no. >15mm)	Burnt stone (wt:g)	Colour	Cortex	Condition	Recortication	Suggested date range	Description
174	<4>	PC175	Nat									Opaque light brown	None	Slightly chipped	None	Meso/ENeo	Distal tip of possible prismatic blade
198		PC200	Nat							2	10	Unknown	Smooth rolled	Burnt	Unknown	Undated	Heavily burnt flint
199		PC200	Nat							1	2	Unknown	None	Burnt	Unknown	Undated	Heavily burnt flint
205		L205	PMed							1	12	Unknown	None	Burnt	Unknown	Undated	Heavily burnt flint
247		L247	Preh							5	18	Unknown	Rough but weathered	Burnt	Unknown	Undated	Heavily burnt flint
251		L251	Preh							2	19	Unknown	Smooth rolled	Burnt	Unknown	Undated	Heavily burnt flint
261		L261	Med							6	24	Unknown	Smooth rolled	Burnt	Unknown	Undated	Variably burnt flint
326		L326	Med							1	43	Unknown	Smooth rolled	Burnt	Unknown	Undated	Heavily burnt flint
357		Qu376	?					1				Mottled dark brown	Ancient thermal scar	Good	None	Meso/ENeo	Blade core made on a small alluvial pebble with several narrow blades removed from one direction using a simple flaked platform. 15g

Context	Ref.	Feature	Feature Date	Flake	Blade-like flake	Non-prismatic Blade	Flake fragment	Core	Retouched Implement	Burnt stone (no. >15mm)	Burnt stone (wt:g)	Colour	Cortex	Condition	Recortication	Suggested date range	Description
357		Qu376	PMed	1								Mottled dark brown	Rough but weathered	Slightly chipped	None	Neo-BA	Small, relatively thin
357		Qu376	PMed	1								Translucent dark grey	None	Good	None	Neo-BA	Small squat flake
357		Qu376	PMed	1								Mottled dark brown	None	Slightly chipped	None	Neo-BA	Large relatively squat flake
364		L364	Med				1					Mottled dark grey	Rough but weathered	Good	None	Undated	Flake or small disintegrated core fragment
386		D437	Preh							2	18	Unknown	Smooth rolled	Burnt	Unknown	Undated	Heavily burnt flint
397		L397	Preh			1						Translucent light grey	Thermal scar	Slightly chipped	White	Meso/ENeo	Not prismatic but well struck. 46x17x6mm
430		PH431	Preh		1							Unknown	None	Slightly chipped	White	Meso/ENeo	Systematic

Table 2: Catalogue of lithics

APPENDIX 3: POTTERY ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of pottery was recovered from the site (six boxes). The pottery dates to the prehistoric, medieval and post-medieval periods. Only one sherd is abraded (less than 0.2% by sherd count) and so the material was probably deposited fairly rapidly after breakage or was discarded, which was mostly by secondary depositional circumstances. The fragmentation of the pottery ranges from sherd material to vessels with complete profiles and six intact vessels of an 18th- or 19th-century date additionally occur. The pottery was quantified by sherd count (SC) and estimated number of vessels (ENV), besides weight. Pottery was recovered from 49 contexts and as small (fewer than 30 sherds), medium (less than 100 sherds) and one large group of pottery (more than 100 sherds).

The assemblage consists of 366 sherds/239 ENV/15.794kg of which 27 sherds/24 ENV/511g are unstratified. The assemblage was examined macroscopically and microscopically using a binocular microscope (x20), and recorded in an ACCESS database, by fabric, form and decoration. The classification of the pottery types is according to the Museum of London Archaeology (2014). The pottery is discussed by types and its distribution.

The Pottery Types

The quantification of the pottery for each post-Roman archaeological period is as follows:

Prehistoric: 1 sherd, 1 ENV, 10g

Medieval: 45 sherds, 44 ENV, 403g

Post-medieval: 321 sherds, 195 ENV, 15.390kg

Prehistoric

A single non-diagnostic body sherd of prehistoric pottery was found in context [455]. The sherd is thin walled and made in a moderately coarse flint-tempered, fine sandy brickearth fabric with an oxidised exterior, reduced core and a dark grey brown inner surface. This sherd is most likely to date to the Late Bronze Age - Early Iron Age.

Medieval

The range of medieval pottery types and their quantification, besides the forms that occur in these wares, is shown in Table 1.

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
Early medieval (Vince and Jenner 1991)						
Early medieval sandy ware with calcareous inclusions	EMCALC	1000-1150	1	1	1	-
Early medieval sandy ware	EMS	970-1100	7	6	59	Cooking pot
Early medieval sand- and shell-tempered ware	EMSS	1000-1150	1	1	1	-
Early surrey ware	ESUR	1050-1150	1	1	2	-
Medieval						
London area (Pearce et al 1985)						
Late London-type ware	LLON	1400-1500	1	1	12	Jug, rounded
London-type ware	LOND	1080-1350	9	9	43	Jug
London-type ware baluster jug	LOND BAL	1180-1350	1	1	38	
Essex (Pearce et al 1982)						
Mill green ware	MG	1270-1350	3	3	15	Jug
Hertfordshire Jenner and Vince 1983; Blackmore and Pearce 2010)						
Late medieval Hertfordshire glazed ware	LMHG	1340-1450	1	1	14	Jug
South Hertfordshire-type greyware	SHER	1170-1350	2	2	22	-
Surrey (Pearce and Vince 1988)						
Limpsfield-type ware	LIMP	1150-1300	2	2	16	-
Surrey whitewares						
Cheam whiteware	CHEA	1350-1500	5	5	17	Jug
Cheam whiteware cooking pot with flat-topped rim	CHEA FT	1350-1440	1	1	24	
Kingston-type ware	KING	1240-1400	1	1	6	Dish, small
Kingston-type ware in the highly decorated style	KING HD	1240-1300	1	1	9	Jug
Coarse Surrey-Hampshire border ware	CBW	1270-1500	5	5	63	Cooking pot, jug
Unknown						
Miscellaneous unsourced medieval pottery	MISC	900-1500	3	3	61	Rounded Bowl

Table 1: QUA15. Medieval pottery types quantified by sherd count (SC), estimated number of vessels (ENV) and weight (Wt (g)) and the forms that occur in the different wares

The early medieval pottery is represented by ten sherds/9 ENV/63g and the types recorded cover the period *c*. 970-1150. The pottery types are typically those found in the central London area and the only form confidently recorded was a cooking pot made in early medieval sandy ware (EMS). The very slightly concave base of a vessel with oxidised surfaces and a grey core has burnt out organic inclusions and may be related to the medieval organic ware fabric (MORG), dated *c*. 1000-1200 and this mainly has a distribution in West London. This item was found in context [162].

There are nineteen sherds/19 ENV/149g of pottery broadly dated to the 13th and 14th century. This pottery consists of mostly jug sherds made in London-type ware (LOND; LOND BAL) and Essex made Mill Green ware (MG), besides the Kingston-type Surrey whiteware (KING), which includes an example in the highly decorated style (context [304]), as well as a

small dish (context [166]). There are also represented non-diagnostic greywares sherds from two sources: Limpsfield (LIMP) from Surrey and South Hertfordshire greyware (SHER).

Additionally there is an unidentified ware consisting of a body sherd with an oxidised exterior and core while the inner margin is dark grey/black and the fabric is micaceous and gritty and was recovered from context [326], dated *c*. 1270-1350.

Thirteen sherds/13 ENV/130g of pottery are dated to the late medieval period and this consists mostly, and typically for the period in the London area, of Surrey whitewares and in the form of cooking pot and jug sherds made in Cheam ware and Coarse Surrey-Hampshire border ware. Present also are less common pottery types, such as 15th-century Late London ware, in the form of a large rounded jug (context [107]) and late medieval Hertfordshire glazed ware (LMHG), dated *c*. 1340-1450 as a jug sherd with stamped bosses (Context [166]). The stamp takes the form of an elongated oval containing a seven pointed cross.

Additionally there is an unidentified red earthenware in the form of a rounded bowl with a narrow flat-topped rim. The external surface of the vessel is missing, otherwise the fabric can be described as oxidised, hard and consisting of a fine sandy matrix with moderate ill-sorted, medium, rounded and sub-angular rose and white quartzes. The pottery type falls into the category of late medieval/ transitional period high-fired red earthenwares that were made at many locations in the Home Counties surrounding London. This item was found in context [159], dated *c*. 1350-1500.

Post-Medieval

The quantification of the post-medieval pottery types and the forms that occur in these wares is shown in Table 2.

Pottery types	Code	Date range	SC	ENV	Wt (g)	Forms
London (Green 1999; Nenk and Hughes 1999; Orton 1988)						
London stoneware	LONS	1670-1926	6	4	143	Capuchine, jug: rounded, tankards
London-area post-medieval bichrome redware	PMBR	1480-1600	3	1	133	-
London-area post-medieval redware	PMR	1580-1900	45	25	4696	Bowl: hemispherical, cauldron or pipkin, chamber pot, flower pot, jar, jug
London-area early post-medieval redware	PMRE	1480-1600	23	20	875	Bowl: handled ,bowl or dish, cauldron, jar: rounded, jug: large rounded
London-area post-medieval slip-decorated redware	PMSL	1480-1600	1	1	8	-
London-area post-medieval slipped redware with green glaze	PMSRG	1480-1650	3	3	41	Jug
London-area post-medieval slipped redware with clear (yellow) glaze	PMSRY	1480-1650	10	8	480	Bowl: carinated, bowl or dish, chafing dish, jug
English tin-glazed ware	TGW	1570-1846	6	5	85	Albarello, bowl: deep rounded, plate
London tin-glazed ware with plain pale	TGW BLUE	1630-1846	5	5	1014	Chamber pot, ointment pot,

Pottery types	Code	Date range	SC	ENV	Wt (g)	Forms
blue glaze						plate
London tin-glazed ware with plain white glaze (Orton style C)	TGW C	1630-1846	18	7	500	Chamber pot, jar: medium rounded, cylindrical: squat;
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style D)	TGW D	1630-1680	1	1	11	Charger
London tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	TGW H	1680-1800	12	6	181	Albarello, chamber pot, plate: Britton type H
London late tin-glazed ware	TGW LATE	1745-1846	2	2	174	Ointment pot
London tin-glazed ware with sponged decoration	TGW SPNG	1700-1760	23	2	253	Plate: Britton type J
Surrey-Hampshire borders (Pearce 1992; 1999)						
Surrey-Hampshire border whiteware	BORD	1550-1700	1	1	26	Moneybox
Surrey-Hampshire border whiteware with brown glaze	BORDB	1600-1700	1	1	15	-
Surrey-Hampshire border whiteware with green glaze	BORDG	1550-1700	9	9	106	Bowl or dish, porringer, tripod pipkin, type 2
Surrey-Hampshire border green-glazed whiteware flat-rimmed chamber pot	BORDG CHP2	1650-1750	1	1	90	
Surrey-Hampshire border whiteware with olive glaze	BORDO	1550-1700	4	4	23	-
Surrey-Hampshire border whiteware with clear (yellow) glaze	BORDY	1550-1700	9	7	385	Bowl or dish, cauldron or pipkin, chamber pot, dish, ?schweinetopf
Early Surrey-Hampshire border whiteware	EBORD	1480-1550	3	2	5	-
Surrey-Hampshire border redware	RBOR	1550-1900	13	5	1993	Bowl: medium rounded, paint pot
Surrey-Hampshire border redware with green glaze	RBORG	1580-1800	1	1	28	Bowl or dish
Essex (Nenk and Hughes 1999)						
Metropolitan slipware	METS	1630-1700	1	1	233	Dish: rounded
Essex-type post-medieval fine redware	PMFR	1580-1700	2	2	57	Cauldron
Essex-type post-medieval fine redware with brown glaze	PMFRB	1580-1700	1	1	6	Jug
South midlands						
South Midlands post-medieval redware	SMPMR	1600-1900	1	1	5	-
Midlands (Hildyard 2005)						
Midlands orange ware	MORAN	1400-1820	1	1	23	Butter pot
Midlands purple ware	MPUR	1400-1750	2	2	37	-
Nottingham stoneware	NOTS	1700-1800	1	1	5	-
Staffordshire-type mottled brown-glazed ware	STMO	1650-1800	2	2	100	Bowl: medium flared, dish; rounded
White salt-glazed stoneware	SWSG	1720-1780	6	3	79	Dish: small, mug: cylindrical, ointment pot
Britain (Hildyard 2005)						
Bone china	BONE	1794-1900	2	2	16	Tea cup
Creamware	CREA	1740-1830	24	9	1740	Chamber pot, dish: oval, jug: pear-shaped, plate: desert, dinner
English brown salt-glazed stoneware	ENGS	1700-1900	1	1	27	Bottle: cylindrical
Pearlware with under-glaze blue-painted decoration	PEAR BW	1770-1820	12	2	414	Plate: large, saucer
Pearlware with under-glaze polychrome-painted decoration in 'earth' colours	PEAR ERTH	1790-1820	8	2	194	Plate: desert
Pearlware with under-glaze painted decoration	PEAR PNTD	1770-1840	1	1	51	Dish: rounded
Pearlware with transfer-printed decoration	PEAR TR	1770-1840	4	2	151	Bowl: deep rounded, tea cup: Bute shape
Refined white earthenware	REFW	1805-1900	1	1	10	Jar: cylindrical
Staffordshire-type combed slipware	STSL	1660-1870	6	5	164	Cup: caudle, dish: rounded, mug: rounded

Pottery types	Code	Date range	SC	ENV	Wt (g)	Forms
Refined whiteware with under-glaze transfer-printed decoration	TPW	1780-1900	6	6	141	Dish: oval, plate: dinner, tea
Yellow ware with slip decoration	YELL SLIP	1820-1900	2	1	33	Jug: rounded
Imports (Hurst et al 1986)						
China						
Chinese porcelain, Batavian ware	CHPO BATV	1700-1750	1	1	4	Tea bowl
Chinese blue and white porcelain	CHPO BW	1590-1900	8	8	91	Bowl: small, rounded, tea cup: octagonal, plate, saucer, tea bowl
Chinese porcelain with famille rose decoration	CHPO ROSE	1720-1800	8	4	131	Saucer, tea bowl
Chinese porcelain with famille verte decoration	CHPO VERTE	1690-1730	1	1	72	Saucer
Germany						
Frechen stoneware	FREC	1550-1700	8	7	186	Jug: rounded
Cologne/Frechen stoneware	KOLFREC	1550-1580	1	1	15	Jug: rounded
Cologne stoneware	KOLS	1500-1580	1	1	33	Jug: rounded
Raeren stoneware	RAER	1480-1610	2	2	23	Drinking jug; rounded
Italy						
Montelupo polychrome maiolica	MLTG	1500-1700	1	1	3	-
Low countries						
Dutch tin-glazed ware	DTGW	1512-1800	5	1	72	Jar; small rounded

Table 2. QUA15. Post-medieval pottery types quantified by sherd count (SC), estimated number of vessels (ENV) and weight (Wt (g)) and the forms that occur in the different wares.

London area post-medieval red earthenwares dated *c*. 1480-1600/50 are well represented in the assemblage (40 sherds/33 ENV/1.537kg) and consist of mostly the early post-medieval redware (PMRE) or its slipware version (PMSRG/Y). These wares occur mostly in the form of kitchen wares (bowls and dishes and the occasional cauldron) as well as table wares in the shape of rounded jugs and a chafing dish. The later developed redware (PMR), dated from *c*. 1580 is mostly represented by flower pots, which include one intact example (context [338]) and others with complete profiles. A small number of jar fragments and single examples of cauldrons, chamber pots and a jug also occur in PMR. There is also present the complete profile of a bowl with a hemispherical shape dated to the early 19th century (context [286]).

The English tin-glazed wares are mostly comprised of 18th-century chamber pots and ointment pots in plain blue or whitewares (TGW BLUE/C), besides a smaller quantity of decorated albarelli, deep rounded bowls and plates. The London stoneware is fairly typically found as drinking forms and consist of an 18th-century capuchine and tankard and a 19th-century rounded jug, besides the base of an unstratified large cylindrical vessel.

The post-medieval Surrey-Hampshire border ware industry is represented by two sherds of good quality early border ware, dated *c*. 1480-1550 and probably in the form of drinking vessels. The majority of the pottery from this source is as the whiteware (BORD), dated *c*. 1550-1700 and found as 23 sherds/21 ENV/604g and this occurs mostly in the form of kitchen and table wares, besides two chamber pots and the base of a money box (context [338]). The

latter is often found in places of entertainment or at higher socio-economic residences. The rim and handle for a possible *schweinetopf*, often a footed, horizontal cylindrical vessel with a lid and used for cooking pork, is recorded in BORDY, although it is possible that the fabric is a visually similar German whiteware (context [357]). The redware (RBOR) product from the Surrey-Hampshire borders was mostly found in 19th-century dated contexts and occurs as a medium rounded bowl and a chamber pot shaped paint pot; both vessels were found in context [286].

Pottery from the Midlands are noted as the ubiquitous butter pots in Midlands orange ware and probably the purple ware (MPUR), while Staffordshire-type mottled brown-glazed ware usually occurs in London as drinking forms, although here it occurs as a deep rounded bowl (context [338]) and a rounded dish (context [2]). A very small quantity of mid 18th-century white salt-glazed stoneware (SWSG) is recorded as a fragment of an unstratified cylindrical mug and from context [286] was recovered a small dish and an intact ointment pot. From the south Midlands was an unstratified sherd of post-medieval redware (SMPMR) with an internal 'amber-brown' glaze.

Pottery made in many different British locations was found as 67 sherds/32 ENV/2.491kg and occurs mostly as industrial finewares: bone china (BONE), creamware (CREA), pearl ware (PEAR) and refined white earthenware (REFW/TPW), which were decorated in different styles (see Table 2). The forms recorded in these wares are mostly as table wares and particularly in the form of plates, besides chamber pots and a few tea wares. The small quantity of Staffordshire-type combed slipware (STSL) is recorded as three dishes, besides a caudle cup (context [329]) and a rounded mug (context [29]). A rounded jug was the only item recorded in yellow ware with slip decoration (YELL SLIP) and this was also found in context [29]. A sherd of English brown salt-glazed stoneware comes from a 19th-century cylindrical bottle (context [286]).

Imported pottery in the assemblage only dates to the post-medieval period and this was found as 37 sherds/28 ENV/654g and was largely fragmentary. Rounded jugs were only recorded in the German stonewares from Cologne, Frechen and Raeren. In Dutch tin-glazed ware there is the notable find of an early 18th-century medium sized rounded jar with a fluted body and decorated in blue baroque floral motifs on white (context [338]). The only Italian import is the relatively rare London find of Montelupo polychrome maiolica (MLTG) and as a sherd from a closed form, which was found in context [282], dated *c*. 1580-1600.

The main import recorded in the assemblage is Chinese porcelain (18 sherds/14 ENV/298g) and this is decorated in a number of styles (see Table 2) and present in 18th- and 19th-century dated contexts. These porcelain forms typically occur as tea wares: small rounded (slop) bowls, saucers and tea bowls. At least three items show evidence for having marks on the underside of the bases, while a matching saucer and tea bowl decorated in *famille rose*

enamels features a watery landscape design with a flapping bird, possibly a stork (context [286]). An unusual find is the base of an octagonal cup made in blue and white porcelain with panel decorated walls (context [338]).

Distribution

The distribution of the pottery is shown in Table 3 which conveys for each context containing pottery its phasing, size, the number of sherds and ENV, besides weight. Additionally the date range of the latest pottery is shown (Context ED and LD), the types of pottery present and a considered deposition date. Pottery is recorded in Phases 2-4. The distribution of the pottery by each phase is discussed briefly.

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Pottery types	Spot date
11	CB	4	S	2	2	31	1580	1900	BORDG, PMR	19th century
15	CB	4	S	1	1	4	1480	1550	EBORD	1480-1550
18	CB	4	S	1	1	10	1794	1900	BONE	Mid-late 19th century
24	CB	4	S	8	8	133	1580	1900	CHEA FT, FREC, PMR, PMSRY, RAER	1580-1700
28	CB	4	S	1	1	135	1480	1600	PMRE	1480-1600
29	CB	4	S	16	11	502	1820	1900	BORDG CHP2, CHPO BATV, CHPO BW, PEAR PNTD, PMR, RBOR, REFW, STSL, TPW, YELL SLIP	Mid 19th century
32	CB	4	S	4	4	68	1820	1900	STMO, TPW	Mid 19th century
33	CB	4	S	2	2	25	1550	1700	BORDG, MORAN	1580-1700
37	CB	4	S	2	2	12	1270	1350	CBW, MG	1270-1350
39	CB	4	S	4	4	10	1350	1500	CHEA, LOND	1350-1500
41	CB	4	S	1	1	4	1480	1650	PMSRY	1480-1650
43	CB	4	S	2	2	123	1480	1600	EMS, PMRE	1480-1600
44	CB	4	S	1	1	24	1550	1900	RBOR	1550-1900
45	CB	4	S	1	1	16	1480	1650	PMSRY	1480-1650
51	CB	4	S	1	1	20	1480	1600	PMRE	1480-1600
53	CB	4	S	5	4	77	1480	1600	CHEA, MPUR, PMRE	1480-1600
107	4	3	S	1	1	12	1400	1500	LLON	1400-1500
140	7	4	S	21	17	615	1660	1870	CBW, CHEA, EBORD, LOND, MPUR, PMR, PMRE, PMSL, STSL, TGW, TGW C, TGW D	1680-1800
159	7	3	S	2	2	20	1350	1500	CBW, MISC	1350-1500
162	7	3	S	1	1	24	900	1500	MISC (?MORG)	900-1500
166	8	3	S	2	2	20	1340	1440	KING, LMHG	1340-1400
172	8	3	S	2	2	13	970	1100	EMS	970-1100
198	10	3	S	1	1	1	1000	1150	EMCALC	1000-1150
199	10	3	S	5	4	12	1050	1150	EMS, EMSS, ESUR	1050-1100
202	11	4	S	1	1	233	1630	1700	METS	1630-1700
210	12	4	S	2	1	56	1550	1700	FREC	17th century
256	14	4	S	3	2	17	1630	1846	BORDY, TGW C	1630-1700
261	14	3	S	1	1	7	1080	1350	LOND	1080-1350
270	EXC	3	S	4	4	14	1350	1500	CHEA, LOND, SHER	1350-1500
282	EXC	4	S	18	15	425	1580	1900	BORDY, FREC, LIMP, LOND, MLTG, PMBR, PMRE, PMSRG, PMSRY,	1580-1600

Context	Trench	Phase	Size	SC	ENV	Wt (g)	Context ED	Context LD	Pottery types	Spot date
									RBORG, SHER	
286	EXC	4	L	102	42	6913	1794	1900	BONE, BORDO, CHPO BW, CHPO ROSE, CREA, ENGS, LONS, PEAR BW, PEAR ERTH, PEAR TR, PMR, RBOR, SWSG, TGW BLUE, TGW C, TGW H, TGW LATE	C. 1800-1820
292	EXC	4	S	1	1	17	1480	1650	PMSRY	1480-1650
293	EXC	4	S	1	1	1	1590	1900	CHPO BW	18th century
301	EXC	4	S	1	1	56	1580	1900	PMR	1580-1900
304	EXC	4	S	1	1	9	1240	1300	KING HD	1240-1300
305	EXC	4	S	2	2	7	1580	1700	PMFR, PMFRB	1580-1700
309	EXC	4	S	3	3	86	1780	1900	PMFR, TGW, TPW	Mid-late 19th century
322	ECX	4	S	3	2	41	1550	1700	BORDG, BORDY	1550-1700
326	EXC	3	S	2	2	25	1270	1350	MG, MISC	1270-1350
338	EXC	4	M	67	23	4417	1700	1760	BORD, BORDG, CBW, CHPO BW, CHPO ROSE, CHPO VERTE, DTGW, LONS, PMR, STMO, TGW, TGW BLUE, TGW C, TGW H, TGW SPNG	1700-1720
340	EXC	4	S	3	3	5	1680	1800	PMR, TGW, TGW H	1680-1800
342	EXC	4	S	1	1	4	1580	1900	PMR	1580-1900
343	EXC	4	S	3	3	61	1550	1700	FREC, LOND, LOND BAL	1550-1700
357	EXC	4	S	26	23	904	1580	1900	BORDG, BORDO, BORDY, FREC, KOLFREC, KOLS, PMR, PMRE, PMSRG, PMSRY, RAER	1580-1600
364	EXC	3	S	2	2	6	1270	1350	MG	1270-1350
390	EXC	4	S	3	3	45	1660	1870	BORDB, PMR, STSL	1660-1700
438	EXC	4	S	2	2	40	1550	1700	FREC, PMRE	1550-1600
455	EXC	2	S	1	1	10			Flq	Late Bronze Age-Iron Age

Table 3. QUA15: distribution of pottery types showing the phase, the size/number of sherds (SC), ENV, weight in grams, the date range of the latest pottery type, the pottery types present and a spot date (context considered date) for each context Post-Roman pottery occurs in. CB: crane base, EXC: excavation area

Phase 2

A single sherd of pottery was found in this phase and consisted of the flint and quartz-tempered prehistoric fragment dated to the Late Bronze Age - Early Iron Age and found in layer [455].

Phase 3

A total of 23 sherds/22 ENV/154g of pottery was found in this phase and recovered from eleven contexts, each containing five sherds or less. Early medieval pottery was noted in contexts [162], [172], [198] and [199. Deposit [261] produced only a sherd of London-type

ware dated *c*. 1080-1200, while *c*. 1270-1350 pottery dated contexts are noted as deposits [326] and [364]. Contexts producing only late medieval wares, falling within the date range of *c*. 1340/50-1500 were noted in contexts [107], [159], [166] and [277]. Table 3 shows which pottery types occurred in the Phase 3 dated deposits.

Phase 4

This phase produced the largest quantity of pottery: 314 sherds/191 ENV/15.116kg. This material was recovered from 49 deposits as small, medium and large sized groups. Contexts [37], [39] and [307] only produced small groups of medieval pottery.

A small number of deposits containing a handful of sherds dated to the early post-medieval period (*c.* 1480-1600/1650: contexts [15], [26], [41], [43], [45], [51], [53] and [292], while context [438] was dated to the late 16th century. A moderate sized group of pottery recovered from fill [357] of quarry pit [376] was dated *c*. 1580-1600 and contained mostly early post-medieval redware (PMRE) or the slipware version (PMSRG) in the form of bowls, dishes, a jug and a chafing dish, while Surrey-Hampshire border whiteware sherds also occur (which include a type 2 pipkin) together with a possible *schweinetopf* and sherds of German stoneware jugs. The latest pottery type was a sherd of London area post-medieval redware (PMR), dated to after *c*. 1580.

The quarry pit [377] contained in its fill [282] a group of pottery also dated *c*. 1580-1600, although German stonewares were absent and the only import was the sherd of Montelupo tin-glazed ware (MLTG). The latest item of pottery was a fragment of a Surrey-Hampshire border redware with green glaze (RBORG) bowl or dish, dated *c*. 1580-1800.

Groups of pottery dated *c*. 1580-1700 were noted in contexts [24], [33] and [305], while mid to late 17th-century small groups of pottery were noted in deposits [202] and [256].

Three sherds of pottery were noted in context [390], dated *c*. 1660-1700 and was notable for the caudle cup made in Staffordshire-type combed slip ware.

A notable medium sized group of pottery was recovered from fill [338] of cess pit [288], dated *c*. 1700-20 and the pottery indicates that it belonged to a middling to high socio-economic group by the presence of the Surrey-Hampshire border whiteware money box, four vessels in Chinese porcelain in the form of tea wares, which include the octagonal cup, a London stoneware capuchine and a tankard, the Dutch tin-glazed ware fluted rounded jar and eight English tin-glazed items. These occur as chamber pots, including a rare decorated (TGW H) example and two sponge-decorated (TGW SPNG) plates with landscape designs. Additionally there are two flower pots made in PMR and one is complete.

Cess pit [288] was later rebuilt and its fill [286] produce a large sized group of pottery, deposited *c*. 1800-1820. The pottery in this fill largely consisted of creamware and to a lesser extent pearl ware in the form of table and tea wares. Additionally there are six Chinese porcelain tea ware vessels that include the matching tea bowl and saucer with a bird/?stork design. An early example of bone china is also recorded in the form of a moulded jug or base fragment. The tin-glazed wares were mostly residual in this deposit, although there were two intact ointment pots dating to the late 18th-early 19th century (TGW LATE) and another intact ointment pot in this group consisted of white salt-glazed example. Amongst the PMR coarseware are three flower pots, two of which have a complete profile and the hemispherical bowl occurs alongside the RBOR paint pot. This fill of cess pit [282] also shows some level of affluence.

Significance of the Collection

The pottery has significance at a local level. The assemblage follows the ceramic profile for London and a sequence of pottery is represented from the early medieval period through to the 19th century, although there appears to be a hiatus between the period *c*. 1150-1270. The pottery is most likely to have been derived from sources mostly on site. Very few, if any pottery assemblages have been published in the immediate vicinity of the study area, although comparable assemblages have been excavated further afield in the Westminster Abbey and Palace area (e.g. Stephenson and Pearce 2006; Jarrett forthcoming), while a similar socio-economic assemblage has been recorded at Cockspur street (Pickard 2002).

Medieval pottery

The early medieval pottery demonstrates limited activity on the site during the period *c*. 1050-1150 and almost certainly reflects settlement during this period associated with the secular development of nearby Thorney Island and the location of Westminster Abbey and Palace. A cooking pot was the only form that could be identified during this period. The later pottery indicates more intensive activity dating from *c*. 1270, which increased more so in the later medieval period (after *c*. 1340). During the late medieval period the pottery consists of mostly Surrey whitewares and both cooking pots and jugs could be identified during this period.

Post-medieval

Sixteenth-century pottery is fairly well represented in the assemblage and includes a wide range of forms, although those associated with drinking are more frequent. Pottery dating to the 17th century is comparatively poorly represented and the forms identified occur as similar

low numbers for each shape. The 18th-century component of the assemblage is much better represented than the previous period and there are a wide range of forms identified that include dining and tea wares, indicating that the owners of the pottery were conforming to the social niceties and habits of the day. This was particularly noted in the group of pottery recovered from the *c*. 1700-20 dated fill [338], cess pit [288], which contained Chinese porcelains and the Dutch tin-glaze fluted rounded jar. The 1792-99 Horwood map shows that cess pit [288] was located in an area of open ground to the rear of both the large building fronting Park Street (Queen Anne's Gate) and No. 8 Dartmouth Street. The building on Park Street together with much of the northern part of Carteret Street appears to have been built in the 1770s and therefore the pottery recovered from fill [338] predates this building and may be associated with earlier structures on the site or that of No. 8 Dartmouth Street which was built *c*. 1705. The 19th-century pottery in the assemblage is also well represented and consists of mostly table wares. The largest group of pottery was found in fill [286] and deposited *c*. 1800-20 and derived from a rebuild of cess pit [288]. The pottery therefore is of significance for demonstrating the material culture of the inhabitants of the study area and was probably derived mostly from properties located on Dartmouth Street, although it is possible that a small element of the assemblage is associated with the buildings fronting Queen Anne's Gate and Carteret Street.

Potential

The potential of the pottery is to date the features in which it was found and to provide a sequence for them and a number of vessels would merit illustration or photographing. The ceramics also have the potential to understand the material culture of the inhabitants of the study area, particularly during the 18th and 19th century. Certain vessels dating to this period indicate that middling socio-economic groups were in residence.

Recommendations for Further Work

A short pottery report is required for the publication of the site and it is recommended that three vessels are illustrated and that 28 vessels are (reconstructed where necessary) and photographed as group shots of the pottery found in fills [286] and [338]. These illustrations will supplement the text.

Bibliography

Blackmore, L and Pearce, J., 2010. *Medieval coarsewares of the London area. A dated type-series of London medieval pottery part 5: shelly-sandy ware and the greyware industries*. Museum of London Archaeology Monograph 49.

Hildyard, R., 2005. *English Pottery 1620-1840.* London: V & A publications.

Hurst, J.G., Neal, D.S. and van Beuningen, H.J.E., 1986. *Pottery produced and traded in North-west Europe, 1350-1650*. Rotterdam Papers IV.

Jarrett, C., forthcoming. Prehistoric to post-Medieval Pottery, in P.B. Jorgensen, Excavations in the North-West Corner of Dean's Yard, Westminster Abbey. *Transactions of the London and Middlesex Archaeological Society*.

Jenner, M. A. and Vince, A.G., 1983. A dated type-series of London medieval pottery, part 3: a late medieval Hertfordshire glazed ware. *Transactions of the London and Middlesex Archaeological Society* 34, 151-70.

Museum of London Archaeology, 2014 Medieval and post-medieval pottery codes. http://www.mola.org.uk/resources/medieval-and-post-medieval-pottery-codes. Accessed September 2015.

Nenk, B. and Hughes M., 1999, Post-medieval redware pottery of London and Essex, in G. Egan and R.L. Michael, *Old and New Worlds*. Oxbow Books, 235-245.

Orton, C., 1988. Post-Roman pottery from Mark Browns Wharf, in P. Hinton (ed.), *Excavations in Southwark, 1973-76, Lambeth 1973-79*. London and Middlesex Archaeological Society and Surrey Archaeological Society Joint Publication 3, 307-348.

Pearce, J., 1992 Border *Wares, Post-Medieval Pottery in London, 1500-1700*. Vol. 1. London HMSO.

Pearce, J., 1999. The pottery industry of the Surrey-Hampshire Borders in the 16th and 17th centuries, in G. Egan and R.L. Michael, *Old and New Worlds*. Oxbow Books, 246-263.

Pearce, J. and Vince, A., 1988. *A dated type-series of London medieval pottery Part 4: Surrey Whitewares*. London and Middlesex Archaeology Society Special Paper 10.

Pearce, J., Vince, A. G. and Jenner, A., 1985 *A dated type-series of London medieval pottery Part 2: London-type ware*. London and Middlesex Archaeology Society Special Paper No. 6.

Pearce, J. E., Vince, A. G. and White, R, with Cunningham, C., 1982. A dated type-series of London medieval pottery Part One: Mill Green ware. *Transactions of the London and Middlesex Archaeology Society* 33, 266-298.

Pickard, C., 2002. Excavations at 25-34 Cockspur Street and 6-8 Spring Gardens. *London Archaeologist* 10 (2), 31-40.

Stephenson, R., and Pearce, J., 2006. The medieval and post-medieval pottery, in C. Thomas, R. Cowie and J. Sidell, *The royal palace, abbey and town of Westminster on Thorney Island. Archaeological excavations (1991-8) for the London Underground Limited Jubilee Line Extension Project*. Museum of London Archaeology Service Monograph 22, 181-3.

Vince, A. G. and Jenner, A. 1991. The Saxon and early medieval pottery of London, in A. Vince (ed.), *Aspects of Saxo-Norman London: Finds and Environmental work*. London and Middlesex Archaeological Society Special Paper 12, 19-119.

APPENDIX 4: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (one box). Most fragments are in a fairly good condition, indicating they had not been subjected to too much redeposition or were deposited soon after breakage. Clay tobacco pipes occur in 24 contexts as small (under 30 fragments) sized groups.

All the clay tobacco pipes (97 fragments, of which 26 are unstratified) were recorded in a database format and classified by Atkinson and Oswald's (1969) typology (AO) except that 18th-century bowls are according to Oswald's (1975) simplified typology and are pre-fixed OS. The pipes are further coded by decoration and quantified by fragment count. The tobacco pipes are discussed by their types and distribution.

The Clay Tobacco Pipe Types

The clay tobacco pipe assemblage from the site consists of 29 bowls, 67 stems and one mouthpart. The clay tobacco pipe bowl types are dated *c*. 1660 to 1910.

1660-1680

AO15: one spurred, rounded profile bowl with full milling and an average quality of finish, found in context [140].

1660-1680

AO20: two heeled, tall, rounded profile, angled bowls and both are of an average finish. One bowl has its rim missing (context [256]) and the other shows no evidence of milling (context [305]).

AO21: six, often with a splayed heel, tall angled bowls with a rounded front and straight back and all are of an average finish. Three bowls have their rims missing (unstratified and contexts [140] and [256]), while one bowl has a quarter milling (context [210]) and the other two show no evidence of milling (contexts [210] and [340]).

AO22: thirteen, tall heeled, angled bowls with straight sides and the majority have an average finish, except for one example with a good burnish (context [301]). Five bowls have their rims

missing or damaged (unstratified: three examples, contexts [342] and [343]) although only one of these bowls shows clear evidence for the AO22 bowl shape being milled in this assemblage. Other examples of this bowl type occur in contexts [140] (three examples), [160] and [210]. Additionally one other bowl is initialled on its heel:

I ?, SF 34, context [15]. The bowl is covered in a mortar-like deposit and the initials are unclear and the bowl rim is possibly milled.

1700-1740

OS10: two heeled, upright bowls with a rounded front and straight back, thick stems and both have a good finish and were both found in context [338]. One bowl has a slightly splayed heel while the other example is initialled:

?A S: SF 39. The rim is missing and the first initial is uncertain.

1730-1780

OS12: one heeled, upright bowl with a rounded front and straight back and a thin stem. Context [211].

1770-1845

AO27: one short, heeled bowl with a straight back and rounded front which is initialled on the heel and decorated:

G B: SF 35, context [29]. The bowl has early 19th-century decoration in the form of fluting of different sizes, besides wheat ear and grass borders on the front and back of the bowl, although the mould used to make the item is poorly fitting. The bowl could have been made by one of three contemporaneous pipe makers with the same name working in London: George Benson 1, King George Yard, Lambeth, *c.* 1775-1823 and a father and son at Grays Inn Lane (George Benson 2) *c.* 1785-97), died 1805, and (George Benson 3), Pentonville, *c.* 1802-20 (Dagnall 2002; 2006, 6-7). Additionally two other London pipe makers have these initials: George Brown, 1799-1828, Grays Inn and George Bradley, 1805-28 (Oswald 1975, 130-1).

1820-1860

AO28: two spurred bowls with a straight back and rounded front appear to have been made in the same mould. Stars are found on each side of the spur, while a wheat ear border only

occurs on the front of the bowl. One bowl has its rim damaged (SF 36) and the other has its rim missing (SF 37) and both items were found in context [29].

1840-1910

AO30: one bowl without a heel or spur and is of a short thorn-type with the thorns confined to the lower half of the bowl while two thorns on the underside of the base of the bowl act as feet. (SF 38). The bowl was unstratified.

One other bowl fragment is recorded that survives mostly as a thick-medium stem with a wide bore and the start of a heel and this item was found in context [256] and probably dates to the late 17th century.

Distribution

Table 1 shows the distribution of the clay tobacco pipes, showing the number of fragments, the date range of the types and the latest bowl, the types of bowls present, together with a spot date for each context the tobacco pipes occur in. The material was only found in Phase 4 dated deposits. Where stems were the only clay tobacco pipe material found in a context then these were given a broad date range based upon the thickness of the item and the size of the bore.

Stems, which are usually thick and have a pertinent wider bore, were broadly dated *c*. 1580-1700 and these were only present in contexts [13], [24], [53], [286], [304], [322] and [357].

Contexts dated 1680-1710, by the presence of only bowl types AO20, AO21 and AO22 were the largest number in the assemblage and were recovered from deposits [15], [140], [169], [210], [256], [301], [305], [329], [340], [342] and [343], which were mostly layers. Of these deposits, the largest number of fragments was recovered from layer [140] which produced a single residual AO15 bowl and the latest shapes were an AO21 and three AO22 bowls, besides six stems.

Fill [338] of the cesspit [228] produced a group of pipes dated 1700-1740 by the presence of two OS10 bowls, one of which is initials ?A S (SF39). The internal surface layer [211] produced an OS12 bowl, dated 1730-1780 and this dated the layer. Fill [33] of the drain [22] only produced a stem with a fine bore dated *c.* 1730-1910.

The latest stratified clay tobacco pipes were recovered from fill [29] of the soakaway [1] and this produced three 19th-century bowls: an AO27 marked GB (SF 35) and two AO28 bowls with stars on their heels (SFs 36 and 37) and together these bowls indicate a deposition date of *c*. 1820-1845.

Context	Trench	Phase	Size	No. of bowls/frags.	Context ED	Context LD	Part/bowl types (makers and registered find nos.)	Spot date
13	CB	4	S	2	1580	1910	Stem	1580-1740
15	CB	4	S	1	1680	1710	AO22 (I ?, SF 34)	1680-1710
24	CB	4	S	1	1580	1740	Stem	1580-1710
29	CB	4	S	9	1820	1860	X1 AO27 (G B, SF35), x2 AO28 (* *, SFs 36 and 37), x 6 stems	1820-1845
33	CB	4	S	1	1580	1910	Stem	1730-1910
53	CB	4	S	1	1580	1910	Stem	1580-1740
140	7	4	S	11	1680	1710	X1 AO15, x1 AO21, x3 AO22, x6 stems	1680-1710
169	8	4	S	1	1680	1710	X1 AO22	1680-1710
210	12	4	S	5	1680	1710	X2 AO21, x1 AO22, x2 stems	1680-1710
211	12	4	S	2	1730	1780	X1 OS12, x1 stem	1730-1780
256	14	4	S	3	1680	1710	x1 AO20, x3 AO21, x1 stems	1680-1710
286	EXC	4	S	2	1580	1740	X2 stems	1580-1740
301	EXC	4	S	1	1680	1710	X1 AO22	1680-1710
304	EXC	4	S	1	1580	1740	Stem	1580-1740
305	EXC	4	S	2	1680	1710	X1 AO20, x1 stem	1680-1710
322	EXC	4	S	1	1580	1740	Stem	1580-1740
329	EXC	4	S	1	1680	1710	X1 AO22	1680-1710
338	EXC	4	S	11	1700	1740	X2 OS10 (x1 ?A S, SF 39), x 8 stems, x1 mouth piece	1700-1740
340	EXC	4	S	2	1680	1710	X1 AO21, x1 stem	1680-1710
342	EXC	4	S	8	1680	1710	X1 AO22, x7 stems	1680-1710
343	EXC	4	S	3	1680	1710	X1 AO22, x2 stems	1680-1710
357	EXC	4	S	1	1580	1910	Stem	1580-1740
360	EXC	4	S	1	1580	1910	Stem	1580-1740

Table 1. QUA150. Distribution of the clay tobacco pipes, showing which contexts contain clay tobacco pipes, the trench it occurs in, the number of fragments and the size of the group, the *terminus ante/post quem* (Context ED/LD) for the group and its suggested deposition. CB: Crane Base, EXC: Excavation area.

Significance of the Collection

Despite being a small assemblage the clay tobacco pipes do have some significance at a local level. The bowl forms present are typical for London and local clay tobacco pipe makers are probably present in the assemblage. There are also no published groups of clay tobacco pipes from the immediate area of the site and therefore the assemblage from QUA15 helps to characterise what was being marketed to the area over time. Assemblages of clay tobacco pipes have been recovered from further afield in the Westminster area (e.g. Cockspur Street and Westminster Abbey: Jarrett 2000, Jarrett forthcoming). None of the clay tobacco pipes show evidence for their manufacture on the site.

Potential

The clay tobacco pipes have the potential to date the contexts they were found in. Some of the pipes merit illustration. The assemblage has some potential to add to the knowledge of the local clay tobacco pipe industry or demonstrate what was being marketed to the area and also to inform upon the life style of the inhabitants of the study area.

Recommendations for Further Work

It is recommended that a short publication report is produced on the clay tobacco pipes and three bowls should be illustrated to supplement the text.

Bibliography

Atkinson, D. and Oswald, A., 1969. London clay tobacco pipes. *Journal of British Archaeology Association*, 3rd series, Vol. 32, 171-227.

Dagnall, R., 2002 (for 2001) (Spring/Summer). George Benson and James Harrison, Pipemakers of Rainford and London. *Society for Clay Pipe Research Newsletter* 59, 3-9.

Dagnall, R., 2006 (for 2003) (Autumn/Winter). George Benson and James Harrison Pipemakers of Rainford and London - continued. *Society for Clay Pipe Research Newsletter* 64, 4-7.

Jarrett, C., 2000. Clay tobacco pipe assessment, in C. Pickard, An Assessment of archaeological excavations at 25-34 Cockspur Street and 6-8 Spring Gardens, City of *Westminster, London WC2.* Pre-Construct Archaeology unpublished report.

Jarrett, C., forthcoming. The clay tobacco pipes, in P.B. Jorgensen, Excavations in the North-West Corner of Dean's Yard, Westminster Abbey. *Transactions of the London and Middlesex Archaeological Society*.

Oswald, A., 1975. *Clay pipes for the archaeologist*, British Archaeological Reports British Series 14.

APPENDIX 5: GLASS ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of glass was recovered from the site (four boxes). The glass dates to the post-medieval period. None of the fragments show evidence for abrasion and were probably deposited fairly rapidly after breakage or were discarded. Natural weathering resulting from the burial conditions was noted upon a number of vessels. The state of fragmentation for the assemblage ranges from single shards to a number of intact items and nearly all of the forms could be identified to at least a basic type. The glass was quantified by the number of fragments, estimated number of vessels (ENV) and weight. The assemblage was recovered from ten contexts as mostly small (fewer than 30 fragments) groups, except for two large (over 100 fragments) sized groups.

All of the glass (342 fragments, 62 ENV, 11.263kg, of which none are unstratified) was recorded in a database format, by type, colour, form and manufacturing technique. The assemblage is discussed by functions, vessel shapes and distribution.

The forms

The composition of the glass assemblage forms is as follows:

Beaker, plain: 2 fragments, 1 ENV, 18g

Bottle: 1 fragment, 1 ENV, 5g

Bottle, conical: 1 fragment, 1 ENV, 9g

Bottle, cylindrical 1 fragment, 1 ENV, 35g

English wine bottle: 6 fragments, 4 ENV, 35g

English wine bottle, cylindrical, early type: 17 fragments, 12 ENV, 6.439kg

English wine bottle, cylindrical, early type, squat: 1 fragments, 1 ENV, 426g

English wine bottle, onion-type: 8 fragments, 3 ENV, 1.226kg

French wine bottle: 8 fragments, 2 ENV, 902g

Mug, barrel-shaped: 8 fragments, 1 ENV, 90g

Phial, cylindrical: 9 fragments, 9 ENV, 181g

Phial: globular or conical: 2 fragments, 2 ENV, 87g

Tumbler: 7 fragments, 1 ENV, 195g

Vessel: 2 fragments, 2 ENV, 40g

Window pane: 240 fragments, 9 ENV, 585g

Window quarry: 8 fragments, 1 ENV, 255g

Window quarry: diamond: 6 fragments, 2 ENV, 38g

Window quarry: triangular: 2 fragments, 2 ENV, 24g

Wine glass: 12 fragments, 6 ENV, 645g

?Wine glass: 1 fragment, 1 ENV, 28g

Alcohol consumption

Beaker, plain

Clear soda glass. Simple rim (90mm in diameter), flared wall, free-blown. 2 fragments, 1 ENV, 18g. Post-medieval. Context [29]

Mug, barrel-shaped

Clear soda glass. Small barrel-shaped mug. ?Complete profile. Inturned simple rim (55mm in diameter), base (48mm in diameter): convex. Over-sized strap handle with two grooves. Trailed band of lines around the rim, and the base and the trailing continues on the underside of the base, pontil scar, free-blown. 8 fragments, 1 ENV, 90g. Late 18th century. Context [286]

Tumbler

Clear soda glass. Complete profile (94mm tall), rounded exterior, simple rim (65mm in diameter), flared wall, rounded wall/base carination (58mm in diameter), rounded underside. Weathered. Free-blown. 7 fragments, 1 ENV, 195g. 18th century. Context [286]

Wine glasses

Clear soda glass. Foot, conical, very thick walled. Could belong to a different type of drinking form. Free-blown. 1 fragment, 1 ENV, 28g. Late 17th-18th century. Context [338]

Clear lead glass. ?Complete profile, conical bow l (80mm in diameter), inverted hollow baluster stem, wide foot (80mm in diameter), quite a robust form. Weathered. Free-blown. 7 fragments, 1 ENV, 242g. *c*. 1690-1710. Context [338], SF 30

Clear soda glass. Lower part of ?ovoid bowl and start of the stem. Free-blown. 1 fragment, 1 ENV, 30g. Late 18th century. Context [286]

Clear soda glass. Ovoid bowl (52mm in diameter). Complete profile, conical/flaring stem, wide foot (66mm in diameter), faceted stem and circular facets occur around the base of the bowl. Weathered. Free-blown. 2 fragments, 1 ENV, 133g. Late 18th century. Context [286]

Clear soda glass with very occasional fine bubbles. Ovoid bowl. Complete profile (115mm tall, 53mm in diameter rim), nearly intact except for a fragment of the bowl rim is missing. Plain conical/flaring stem, wide foot (66mm in diameter). Free-blown. 1 fragment, 1 ENV, 129g. Late 18th century. Context [286]

Clear soda glass with very occasional fine bubbles. Ovoid bowl with the rim missing. Closely spaced vertical fluting. Conical/flaring stem, wide foot (58mm in diameter). Free-blown. 1 fragment, 1 ENV, 111g. Late 18th century. Context [286]

Alcohol storage

English wine bottle

Olive green Natural glass, occasional fine to medium curving body fragment, weathered surfaces are missing. Free-blown 2 fragments, 1 ENV, 11g. 1640+. Context [324]

Olive green natural glass. Neck, heavily weathered. Free-blown. 1 fragment, 1 ENV, 7g. 1640+. Context [255]

Pale olive green natural glass with moderate, fine and large bubbles. Shoulder. Free-blown. 1 fragment, 1 ENV, 3g. 1640+. Context [29]

Olive green soda glass with very occasional fine bubbles. Rounded body sherds. Globe and shaft or onion type. Free-blown. 2 fragments, 1 ENV, 14g. 1640+. Context [340]

English wine bottle, cylindrical, early type, *c*. 1740+

Olive green Natural glass with very occasional fine bubbles. Base (110mm in diameter), rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 535g. *c.* 1740-1900. Context [286]

Olive green natural glass with very occasional fine bubbles. Base (110mm in diameter), rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 494g. *c.* 1740-1900. Context [286]

Olive green natural glass. Base (90mm in diameter), short rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 434g. *c.* 1740-1900. Context [286]

Olive green natural glass with very occasional fine bubbles. Base (80mm in diameter), short rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 399g. *c.* 1740-1900. Context [286]

Olive green natural glass with very occasional fine bubbles. Base (85mm in diameter), splayed, rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 497g. *c.* 1740-1900. Context [286]

Olive green soda glass with occasional fine bubbles. Base (85mm in diameter), rounded/conical kick. Free-blown. 1 fragment, 1 ENV, 475g. *c.* 1740-1900. Context [286]

Dark olive green soda glass with occasional medium bubbles. Base (80mm in diameter), rounded/conical kick. Free-blown. 3 fragments, 1 ENV, 430g. *c.* 1740-1900. Context [286]

Olive green soda glass with occasional medium bubbles. Base (90mm in diameter), rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 533g. *c.* 1740-1900 Context [286]

Dark olive green soda glass with occasional medium bubbles Base (85mm in diameter), rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 548g. *c.* 1740-1900 Context [286]

Olive green soda glass with occasional medium bubbles. Base (90mm in diameter), rounded/domed kick. Free-blown. 1 fragment, 1 ENV, 558g. *c.* 1740-1900 Context [286]

Dichromic: grey blue/olive green soda glass with moderate, fine to very large bubbles. Base (75mm in diameter), squat rounded/conical kick. Free-blown. 1 fragment, 1 ENV, 283g. *c.* 1740-1900. Context [286]

Olive green soda glass with occasional fine bubbles. Intact (255mm tall) squat bottle. String finish (33mm in diameter) of a *c.* 1780-90 date, cigar-shaped neck, rounded shoulder, splayed base (90mm in diameter), rounded kick. Free-blown. 1 fragment, 1 ENV, 833g. *c.* 1780-90. Context [286]

Olive green soda glass with very occasional fine bubbles. Rim (30mm in diameter), *c.* 1780-90 string finish, cigar-shaped neck. Free-blown. 1 fragment, 137g. *c.* 1780-1790. Context [286]

Dark/olive green soda glass with very occasional fine bubbles. Rim (30mm in diameter), *c.* 1780-90 string finish date, cigar-shaped neck. Free-blown. 1 fragment, 0 178g. *c.* 1780-1790. Context [286]

Olive green soda glass with very occasional fine bubbles. Rim (30mm in diameter), *c.* 1780-90 string finish in date, constricted below the straight-sided short cordon, cigar-shaped neck. Free-blown. 1 fragment, 105g. *c.* 1780-1790. Context [286]

Olive green soda glass with moderate fine, medium and large bubbles. Intact (208mm tall) squat bottle. String finish (29mm in diameter), of *c.* 1750-70, cylindrical/bulging neck (asymmetrical), rounded, shoulder, splayed base (75mm in diameter), rounded kick. Free-blown. 1 fragment, 1 ENV, 426g. 1750-70. Context [286]

English wine bottle, onion-type, *c.* 1680-1740

Olive green high-lime low alkali (HLLA) glass with occasional fine bubbles. Rounded shoulder, low concave base (102mm in diameter). Squat, wide example, shoulder to base (80mm in diameter). Free-blown. 4 fragments, 1 ENV, 819g. Early 18th century Context [210]

Olive green natural glass with occasional fine bubbles. Base, neck, body sherd Free-blown. 3 fragments, 1 ENV, 32g. *c.* 1680-1730. Context [338]

Pale olive green natural glass with frequent fine bubbles. Squat vessel. Intact (125mm tall) except for a missing fragment from the shoulder wall. Everted rim (21mm in diameter), with at the base a narrow, flat, round ended cordon, conical neck, rounded body and rounded concave underside. Base diameter: 80mm. Weathered. Free-blown. 1 fragment, 1 ENV, 375g. *c.* 1680-90. Context [338], SF 31 French wine bottle

Olive green soda glass with very occasional fine bubbles. Fragments of neck, shoulder and wall shards, fresh breaks. Fragments belong to other vessels in this context. Free-blown. 6 fragments, 0 606g. *c.* 1760. Context [286]

Olive green soda glass with very occasional fine bubbles. Rim (30mm in diameter), *c.* 1760 string finish: everted with a thin cordon in the angle, conical neck. Free-blown. 1 fragment, 1 ENV, 137g. *c.* 1760.l Context [286]

Olive green soda glass with very occasional fine bubbles. Rim (27mm in diameter), *c.* 1760 string finish: everted with a wide, short depth bevelled cordon in the angle, cigar-shaped neck. Free-blown. 1 fragment, 1 ENV, 159g. *c.* 1760. Context [286]

Architecture

Window pane

Green tinted HLLA glass with occasional fine bubbles Edges, everted, fire finished, and other fragments largely not weathered Crown 1 fragment, 1 ENV, 64g. Post-medieval. Context [338]

Blue tinted HLLA glass with occasional fine bubbles. Thin walled Cylinder 2 fragments, 5g. Post-medieval. Context [338

Clear HLLA glass with occasional fine bubbles. Thin walled, one edge is curving, weathered. Cylinder made. 12 fragments, 5g. Post-medieval. Context [338]

Green tinted HLLA glass with occasional fine bubbles. Thin walled, weathered. Crown made. 123 fragments, 274g. Post-medieval. Context [338]

Green tinted HLLA glass with occasional fine bubbles. X2 fired finished edges, thin walled, weathered Crown made. 12 fragments, 42g. Post-medieval. Context [338]

Clear Soda glass/ Edge, thin walled, flat. Cylinder made. 1 fragment, 1 ENV, 6g. Post-medieval. Context [29]

Green tinted Soda glass with moderate fine bubbles. Thickened edge. Thin walled, weathered. Cylinder made. 1 fragment, 1 ENV, 4g. Post-medieval. Context [301]

Blue tinted soda glass. Thickened edges on one side. Thin walled, weathered. Crown made. 59 fragments, 1 ENV, 12g. Post-medieval. Context [286]

Clear soda glass. Thin walled. 1 fragment, 3g. Post-medieval. Context [340]

Clear soda glass. One edge, very thin walled and heavily weathered. 6 fragments, 1 ENV, 20g. Post-medieval. Context [286]

Green tinted soda glass. Two edges, one thickened on one surface and fire finished, one noticeably thickened above and below the edge with a curve, moderately thin walled. Crown made. 10 fragments, 2 ENV, 72g. Post-medieval. Context [286]

Green tinted soda glass. Two edges, one thickened and fire finished on one edge, one noticeably thickened above and below the edge with a curve, moderately thin walled. Crown made. 12 fragments, 2 ENV, 78g. Post-medieval. Context [286]

Window quarry

Green tinted soda glass with occasional fine bubbles. Uncertain shape, cut edges present, thin walled, weathered. Crown made. 4 fragments, 10g. Post-medieval. Context [338]

Green tinted soda glass with occasional fine bubbles. Uncertain shape, cut edges, thin walled, weathered. Cylinder made. 4 fragments, 1 ENV, 245g. Post-medieval. Context [338]

Diamond shaped window quarry

Greyish-blue-green soda glass with occasional fine bubbles. Edges with the corner cut off, thin walled, slightly weathered. Cylinder made. 5 fragments, 1 ENV, 14g. Post-medieval. Context [338]

Green tinted soda glass with occasional fine bubbles. Fragmentary, but with corners present and thin walled. Cylinder made. 1 fragment, 1 ENV, 24g. Post-medieval. Context [338]

Triangular shaped window quarry

Green tinted soda glass with occasional fine bubbles and moderately large elongated oval bubbles. Edges with the corner cut off. One corner is missing, thin walled, slightly weathered, 91mm x 51mm+ x 1.5mm thick. Cylinder made. 1 fragment, 1 ENV, 13g. Post-medieval. Context [338]

Green tinted soda glass with occasional fine bubbles. Two corners missing, thin walled, slightly weathered, 66 mm+ x 60mm x 1.5mm thick. Cylinder made. 1 fragment, 1 ENV, 11g. Post-medieval. Context [338]

Liquid storage

Bottle (generic fragments)

Clear soda glass with frequent, fine bubbles. Shoulder, thin walled. A white weathered layer. Free-blown. 1 fragment, 1 ENV, 5g. 18th century. Context [29]

Conical bottle

Aquamarine soda glass with moderate: very fine elongated bubbles. Rim sherd (14mm in diameter), fire finished, flat topped, relatively deep cylindrical neck, narrow rounded shoulder, conical wall. Free-blown. 1 fragment, 1 ENV, 9g. 17th/18th century. Context [340]

Cylindrical bottle

Green tint soda glass with occasional fine bubbles. Deep cylindrical neck with a concave profile, shoulder and narrow cylindrical body. Fresh breaks. Free-blown. 1 fragment, 1 ENV, 35g. Late 17th-18th century. Context [338]

Pharmaceutical

Cylindrical phial

Clear soda glass with occasional fine bubbles. Base, conical kick. Free-blown. 1 fragment, 1 ENV, 18g. 17th/18th century. Context [29]

Clear soda glass with frequent fine bubbles. Wall fragment. Free-blown. 1 fragment, 1 ENV, 1g. Post-medieval. Context [29]

Clear soda glass with very occasional bubbles Base (27mm in diameter), short rounded kick Free-blown. 1 fragment, 1 ENV, 12g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Intact (106mm tall) except for damage to the rim. Preparation finish rim(27mm in diameter), short neck, rounded shoulder, bullet-shaped profile/ bevelled below the shoulder, base (27mm in diameter) slight rounded kick with pontil scar. Free-blown. 1 fragment, 1 ENV, 38g. Mid 18th-19th century. Context [286]

Clear soda glass with occasional very fine bubbles. Intact (81mm tall), preparation rim (19mm in diameter), short neck, rounded shoulder, the base (24mm in diameter) has a slight rounded kick with pontil scar. Free-blown. 1 fragment, 1 ENV, 26g. Mid 18th-19th century. Context [286]

Clear soda glass with no bubbles. Intact (99mm tall), preparation rim, slightly down-turned (21mm in diameter), short neck, rounded shoulder, slight scar, base (27mm in diameter) Free-blown. 1 fragment, 1 ENV, 44g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Intact (83mm tall) preparation rim, slightly down-turned 18mm in diameter), short neck, rounded shoulder, rounded base (29mm in diameter), pontil scar. Free-blown. 1 fragment, 1 ENV, 28g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Preparation rim (18mm in diameter), down-turned, short neck, rounded shoulder. Free-blown. 1 fragment, 1 ENV, 10g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Preparation rim (18mm in diameter), short neck, rounded shoulder. Free-blown. 1 fragment, 1 ENV, 4g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Preparation rim (20mm in diameter), short neck, rounded shoulder. Free-blown. 1 fragment, 1 ENV, 5g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Wall sherds and shoulders, fresh breaks. Probably belongs to the other cylindrical phials in this context. Free-blown. 13g. mid 18th-19th century. Context [286]

Globular/conical phials

Green tinted soda glass. Very occasional fine bubbles. Rim, fire rounded finish (9mm in diameter), simple, flaring neck. Int. Trail, twisted neck. ?Tubular phial. Free-blown. 1 fragment, 1 ENV, 5g. 18th/19th century. Context [33]

Clear soda glass with very occasional bubbles fine Kicked conical base (50mm in diameter) Free-blown. 30g. Mid 18th-19th century. Context [286]

Clear soda glass with very occasional fine bubbles. Kicked conical base (48mm in diameter). Possibly belongs to other fragmentary vessels in this context. Free-blown. 34g. Mid 18th-19th century. Context [286]

Vessel glass

Clear/ grey tinted soda glass. Flat fragment. Base or part of a ?foot. White glass curving trails, curving on one surface. Free-blown. 1 fragment, 1 ENV, 1g. ?16th-17th century. Context [24]

Clear soda glass with very occasional fine bubbles. Base (60mm in diameter), rounded flared wall to base carination, small flared bowl Free-blown. 1 fragment, 1 ENV, 39g. Late 18th century. Context [286]

Distribution

The distribution of the glass is shown in Table 1. Glass was only recovered from Phase 4 dated deposits. For each context containing glass, then the number of fragments, estimated number of vessels, weight, the forms and a spot date is shown.

Context	Trench	Phase	Size	No. frags.	ENV	Wt (g)	Forms	Spot date (context considered date)

Context	Trench	Phase	Size	No. frags.	ENV	Wt (g)	Forms	Spot date (context considered date)
24	Crane Base	4	S	1	1	1	Vessel	16th-17th century
29	Crane Base	4	S	7	6	51	X1 beaker (plain), x1 bottle, x1 English wine bottle, x2 phials (cylindrical and globular/conical), x1window pane	17th-18th century
33	Crane Base	4	S	1	1	5	globular/conical, phial	Mid 17th-19th century
210	12	4	S	4	1	819	Onion-type English wine bottle,	Early 18th century
255	14	4	S	1	1	7	English wine bottle	1640+
286	EXC	4	L	142	37	8920	X13 early-type cylindrical English wine bottles, which includes a squat example, x1 French wine bottle, x1 barrel-shaped mug, x8 phials (cylindrical and globular/conical), x1 tumbler, x1 vessel, x6 window pane, x5 wine glasses	Late 18th century
301	EXC	4	S	1	1	4	Window pane	Post-medieval
324	EXC		S	2	1	11	English wine bottle	1640+
338	EXC	4	L	179	11	1419	X1 cylindrical bottle, x2 onion-type English wine bottle, x1 window pane, window quarries (x2 diamond shape, x2 triangular, x1 unknown), 2x wine glasses	Late 17th-early 18th century
340	EXC	4	S	4	2	26	X1 conical bottle, x1 English wine bottle, window panes	Late 17th-early 18th century

Table 2. QUA15: Distribution of the glass showing for each context that it occurs in the Trench location (EXC: excavation area), the phase, number of fragments (No. frags), weight (Wt (g)), the forms and a spot date for the context based upon the dating of the glass.

Significance, potential and recommendations for further work

This glass assemblage dates entirely to the post-medieval period and predominantly the late 17th and 18th century. The glass is interesting for containing a notable number of vessels associated with alcohol storage and consumption, in the latter category there are approximately seven wine glasses, a tumbler and a rare barrel-shaped mug. Pharmaceutical wares are also well represented. Of note amongst the window glass from context [338] are

diamond and triangular shaped window quarries indicating that buildings on the study area had diamond leaded glass windows. The glass additionally complements the information provided by the associated pottery, which imparts different data. The largest groups of glass were recovered from fills [286] and [338], cess pit [288], which contained alcohol consumption and storage vessels. Very few, if any glass assemblages have been published in the immediate vicinity of the study area, although comparable assemblages have been excavated further afield in the Westminster Abbey area (e.g. Jarrett forthcoming), while a similar socio-economic assemblage has been recorded at Cockspur street (Pickard 2002).

Potential

The potential of the glass is to date the context it was recovered from. It also has the potential to inform upon the activities associated with the households it was derived from.

Recommendations for Further Work

It is recommended that a short publication text is prepared on the glass and that this should be supplemented with illustrations of fifteen vessels.

Bibliography

Jarrett, C., forthcoming. The glass, in P.B. Jorgensen, Excavations in the North-West Corner of Dean's Yard, Westminster Abbey. *Transactions of the London and Middlesex Archaeological Society*.

Pickard, C. 2002 'Excavations at 25-34 Cockspur Street and 6-8 Spring Gardens' London Archaeologist Vol. 10 No. 2, 31-40.

APPENDIX 6: BUILDING MATERIAL ASSESSMENT

Amparo Valcarcel

Introduction and Aims

Eight crates of stone and brick were retained from the excavations at Queen Anne's Gate. This moderate sized assemblage (220 examples 98.37kg) was assessed in order to:

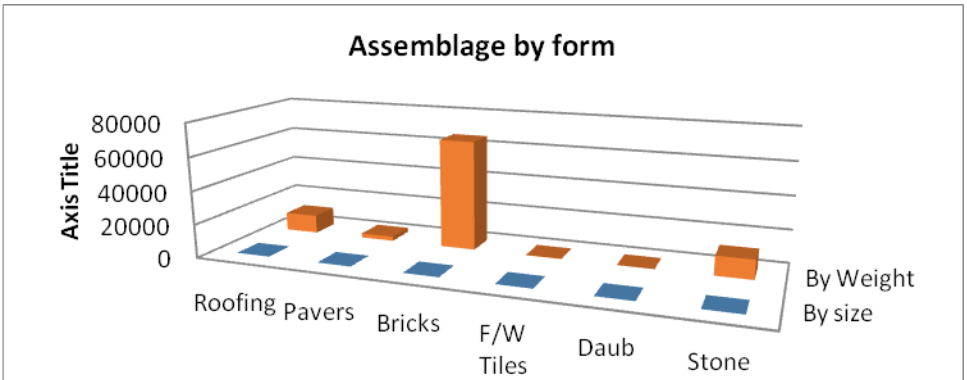
- Identify (under binocular microscope) the fabric and forms of the later medieval or post-medieval occupation building materials.
- Identify the fabric of any of the unworked and worked stone in order to determine what the material was made of and from where it was coming from.
- Reference should also be made to the access catalogues for the building material (QUAY15.mdb)
- Made recommendations for further study.

Methodology

The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10) and compared with Pre-Construct Archaeology's stone and ceramic building material reference collection. The appropriate Museum of London building material fabric code is then allocated to each item.

Ceramic Building Material 208 examples 86.70kg

Almost 99% of the assemblage consists of post-medieval ceramic building material, with much smaller quantities of medieval fabrics (1%). Most of the medieval building material is in a fragmentary condition which would suggest that it may have been reused. Furthermore, medieval materials appear in post-medieval contexts. The post-medieval ceramic building material condition is generally good. The forms shown by a substantial proportion of bricks (40%) and roofing tiles (48%).



	Roofing	Pavers	Bricks	F/W Tiles	Daub	Stone
By size	106	11	89	2	2	12
By Weight	11121	2624	66015	193	50	11678

Figure 1: Size and weight by form groups

Medieval 25 example 2.40kg

Small quantities of medieval roofing tile defined by fabric type, form, glaze and the presence of coarse moulding sand attest to some medieval activity in the area. Furthermore, many of the tiles can be assigned an earlier medieval (12th to 13th century) date on the basis of fabric and form, indicating derivation from the demolition of building(s) of this date.

Peg Tile

2271 (1180-1450); thin sandy and iron oxide rich with coarse moulding sand, 13 examples, 1.32kg

2273 (1135-1220); sandy fabric with abundant-frequent coarse quartz, 1 example, 74g

2586; Iron Oxide fabrics (1180-1500); 8 examples, 717kg; *2587* 3 examples, 289g

Overlapping, flat rectangular peg tiles attached to roofing by two nails (as represented by two nail holes) form numerically the most common medieval roofing form. A small range of fabrics (4) have been identified suggesting derivation from many different buildings. Many are thin, have coarse-moulding sand, splash glazed or have a fabric that is typical of medieval roofing tile as fabric *2587*. A large proportion is made out of fabric *2271* (57%). One splash glazed fragment is from context [37]. Less common, are fabric *2586* (35%) and fabric *2587* (4%).

Early Post-Medieval 79 examples, 66kg

3033 (1450-1700) 33 examples, 24.27kg

3046 (1450-1700) 20 examples, 14.12kg

3065 (1450-1700) 3 examples, 2.72kg

3039 (1450-1700) 23 examples 24.88kg

Four different sandy red brick fabrics were identified; the fine sandy *3033*, the extremely sandy fabric *3065* and the very sandy red *3046*, associated with structures (Table 1). All were manufactured for the city using local London brick clay between 1450 and 1700. Some of these bricks are reused using Victorian mortar types.

Context	Feature	Fabric	Form	Mortar
101	Yellow Brick wall footing enclosing a room	3039	Whole, Unfrogged,	T6
128	Curved wall	3033;3046	Whole, unfrogged	T6
129	Brick wall associated with curved wall [128	3046	Unfrogged	No mortar
141	Floor/surface	3039	Unfrogged	No mortar
167	Floor/surface	3033	Whole, unfrogged	No mortar
168	Curved red brick wall	3046	Whole, unfrogged	T6
194	Remnant of an east-west wall	3033	Whole, wide, unfrogged	No mortar
207	Remnant of red brick drain	3039	Unfrogged	No mortar
208	Stepped wall footing	3039	Large, unfrogged	T6
209	Possibly a brick fireplace	3033;3039	Reused, unfrogged	T6
213	Brick wall	3065	Unfrogged	T6
253	External wall,	3033;3039	Unfrogged	T6
262	Remnant of a red brick floor	3033	Reused, wide, unfrogged	No mortar
303	Brick surface	3033;3039	Abraded	No mortar
323	E-W wall remnant is return of [334]	3039	Whole, unfrogged	No mortar
365	N-S truncated brick wall	3046	Whole, unfrogged	No mortar
368	Brick drain	3033	Whole, unfrogged	No mortar
394	Brick wall	3039;3033	Unfrogged	T5

Table 1: Summary of fabric bricks associated to structures.

Post-Medieval

Roofing material

2276 (1480-1900) 75 examples, 79.74kg.

Rectangular shaped roofing tiles with two nail holes at one end made from the London sandy fabric *2276* are by far the most common fabric from the site, attesting to extensive later post-medieval red roofing tile development in this area. Peg tiles are numerous throughout the site.

2279 Pan tile (1630-1850) 6 examples, 744g.

Curved, nibbed roofing tile which came into force only during the mid 17th century was recovered from contexts [113], [132] and [140].

Flemish Silty floor tiles (1600-1800) 8 examples, 1.45kg.

3063 3 examples, 106g; *2850* 2 examples, 1.34kg
There are seven unglazed and one yellow glazed Flemish floor tile. Fabric *3063* is present in context [43] and fabric *2850* came from contexts [0] and [340].

Local London floor tiles *3064W* (1670-1800), 1 example, 35g
One example of tin-glazed tile was recovered from context [309]. Two circular lines were visible the tile and was probably made at the Aldgate pothouse (Betts and Weinstein 2010).

Intermediate Great Fire

Maroon *3032nr3033* (1664-1725), 8 examples, 6.18kg.
Eight examples of a late 17th to early 18th-century intermediate brick *3032nr3033* combining facets of both early post-medieval reds and post great fire purples were recovered from [+], [43], [293], [309], [371] and [393.]

Post Great Fire Fabrics

3032R (1666-1900) Post Great Fire purple clinker rich fabric
3035 Yellow large machine made Medway bricks
3209 modern floor tile (1800-1900)
A medium size of purple post great fire bricks, local post great fire red brick yellow late 18th century-mid 20th century estuarine bricks are recorded from the site. The largest proportion of bricks were narrow and unfrogged. Some have sharp arises suggesting possible machine manufacture. Some of these bricks are using Victorian mortar types Roman and Portland. The presence of these bricks shows a phase of redevelopment at the end of 19th century and probably earlier.

Context	Feature	Fabric	Form	Mortar
263	Floor/surface	2850	Flemish silty paver	Grey crinkly mortar
274	Brick wall	3032	Unfrogged, narrow	Yellowish shelly mortar mixed with chalk
275	Brick wall	3032nr3033;3032	Whole, unfrogged, reused	Yellowish sandy mortar
276	Yellow stock brick wall	3032nr3033;3032;3035	Unfrogged and deep frogged; reused	Yellowish sandy mortar; Portland mortar
279	Collapsed drain	3032	Unfrogged, well made	Grey crinkly mortar
280	Remnant of drain	3032R	Well made, unfrogged, narrow	No mortar
281	Remnant of drain	3032R	Well made, unfrogged, narrow	Yellowish sandy mortar

283	NE-SW aligned wall	3032nr3033;3032R	Reused, unfrogged, narrow	Yellowish lime mortar
287	Brick wall	3032R	Unfrogged	Grey crinkly mortar
288	Brick cess-pit	3032nr3033;3032R	Well made, unfrogged, narrow	Yellowish lime mortar
289	Rebuild of cess-pit [288]	3032	Unfrogged, well made	Grey crinkly mortar
291	Brick drain	3032nr3033;3032R	Reused, unfrogged, narrow	Yellowish lime mortar
299	Wall remnant	3032R	Well made, narrow	Grey crinkly mortar
300	Floor remnant	3032	Well made, narrow	Grey crinkly mortar
310	Wall remnant	3032	Well made, narrow	Grey crinkly mortar
312	Wall remnant	3032nr3033;3032R	Well made, narrow	Grey crinkly mortar
314	Wall remnant	3032R	Well made, narrow	No mortar
319	Wall remnant	3032nr3033;3032R	Well made, narrow	Grey crinkly mortar
333	Rebuild of cess-pit	3032R	Narow, unfrogged	No mortar
328	Brick drain	3032R	Well made, narrow,reused	Grey crinkly mortar
334	Brick wall	3032R	unfrogged, narrow	Grey crinkly mortar
182	Internal wall	2452	Reused early roman fabric	No mortar
208	Brick & stone structure	3035	Unfrogged	No mortar
239	Wall	3032	Unfrogged	No mortar
311	Brick floor	3032;3035	Unfrogged	T4

Table 2: Summary of fabric bricks associated with post-medieval structures

The Daub *3102* 2 examples 50g

Unworked slightly abraded daub attesting to the presence of timber framed wattle and daub construction in the vicinity were identified in small lumps from [29] and [51].

Mortar; Cement

Mortar/Concrete Type	Description	Use at BIH14
T1	Portland mortar. A form of hard cement. (1830-1950)	Associated with internal walls [241]
T2	Yellowish hard lime mortar (1800-1850)	Associated with a brick cess pit [288]
T3	Hard grey clinker/charcoal mortar (1750-1900)	Associated with structures [263] [279] [283][289][291] [299][300] [310] [312] [319] [328] [334]
T4	Yellowish Sandy mortar (1666-1750)	Associated with a brick drain structures [275] [328]
T5	Yellowish sandy shelly lime mortar (1500-1750)	Associated with a brick walls [274] [394]
T6	Yellowish soft mortar	Bonded to post-medieval red sandy bricks [101] [128] [168] [208] [213] [253]

Table 3: Summary of mortar associated to post-medieval structures

Context	Fabric	Form	Size	Date range of material	Latest dated material	Spot date	Spot date with mortar

Stone 12 examples, 11.67kg

Five rock-types were identified from the assemblage; their geological character, form and use are summarised below.

3105 Kentish Ragstone-*Hard dark grey calcareous sandstone (Kent Ragstone); Lower Cretaceous (Lower Greensand) Maidstone area, North Downs,* 2 examples, 4.60kg

Examples of dumped ragstone rubble, part worked and moulded blocks were recorded from brick wall associated with curved wall [129], and to external wall [255].

3106 Hassock stone-*Glaucontic sandstone (Hassock stone) - Hythe Beds. Lower Cretaceous (Lower Greensand) Maidstone area, North Downs.* 6 examples, 557g.

Six examples of Hassock stone rubble were recovered from post-medieval fills [51] [282] and [338].

3107 Reigate stone-*Fine grained low-density glauconitic limestone, - Upper Greensand, Lower Cretaceous Reigate-Mertsham Surrey.* 2 examples, 6.94kg.

Two pieces of Reigate stone building were recovered from [255] and [282]. A pavement fragment dated to the 19th century was recovered from [282].

3117 Slate, *Blue-Green hard fissile slate, Cornish Slate - Devonian Cornwall*, 1 example, 118g.

3116-Chalk *Fine powdery white foraminiferal limestone, Chalk Upper Chalk (Upper Cretaceous) Thames Valley,* 1 example, 27g

One small example of chalk rubble was recovered from layer [140].

Distribution

0	2271; 3039; 2276; 2850; 2279; 3032nr3033; 3032	Medieval and post-med pan and peg tiles; post-med sandy red brick; post-med Flemish paver; intermediate and post great fire brick	13	1180	1900	1666	1900	1666-1900	No mortar
24	3046	Abraded post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	No mortar
28	2586	Medieval unglazed peg tile	1	1180	1800	1180	1800	1180-1450	No mortar
29	3102; 2586; 2276	Abraded daub; Medieval and post-med unglazed peg tile	5	1500BC	1900	1480	1900	1480-1900	No mortar
37	2587; 2271; 2273; 2276	Medieval and post-med unglazed peg tile	15	1180	1900	1480	1900	1480-1900	No mortar
39	2271; 2276	Post-med unglazed peg tile	2	1180	1900	1480	1900	1480-1900	No mortar
43	3033; 2586; 2271; 2276; 2279; 3063; 3032nr3033	Abraded Post-med sandy red bricks Post-med unglazed peg and pan tile; post-med glazed and unglazed Flemish pavers; intermediate great fire brick	16	1180	1900	1480	1900	1700-1900	No mortar
46	2276	Post-med unglazed peg tile	2	1480	1900	1480	1900	1480-1900	No mortar
51	3102; 2586; 3046; 2276	Abraded daub; Medieval and post-med unglazed peg tile; Post-med sandy red bricks	5	1500BC	1900	1480	1900	1480-1900	No mortar
53	2276	Post-med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
101	3039; 3032nr3033	Post-med sandy red brick; intermediate great fire brick	2	1450	1725	1664	1725	1664-1725	1450-1800
107	2271; 2276	Medieval and post-med peg tiles	7	1180	1900	1480	1900	1480-1900	No mortar
128	3033; 3046	Post-med sandy red bricks	3	1450	1700	1450	1700	1450-1700	1450-1800
129	3105; 3046	Kentish ragstone (rub.); reused post-med sandy red bricks	2	50	1700	1450	1700	1450-1700	1500-1750
140	3116; 3033; 3046	Chalk (rub.); whole post-medieval sandy red brick	9	50	1800	50	1800	1450-1800	1450-1800
141	3039	Reused post-med sandy red brick	1	1450	1700	1450	1700	1450-1700	No mortar
167	3033	Post-med unfrogged sandy red brick (burnt)	2	1450	1700	1450	1700	1450-1700	1450-1800
168	3046	Post-med sandy red bricks	8	1450	1700	1450	1700	1450-1700	1450-1800
194	3033	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	No mortar
207	3039	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	No mortar
208	3039	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	1450-1800
209	3033; 3039	Reused post-med sandy red bricks	3	1450	1700	1450	1700	1450-1700	1450-1800
213	3065	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	1450-1800
214	3046; 3065	Abraded post-med sandy red bricks	3	1450	1700	1450	1700	1450-1700	1450-1800
253	3033; 3039	Post-med sandy red bricks	4	1450	1700	1450	1700	1450-1700	No mortar
255	3105; 3107	Kentish ragstone and Reigate (rub.)	1	50	1666	50	1666	1055-1666	No mortar
262	3033	Reused post-med sandy red	2	1450	1700	1450	1700	1450-1700+	No mortar

		bricks							
270	2271; 2586	Medieval unglazed peg tiles	2	1180	1900	1180	1900	1180-1450	No mortar
279	3039; 3032R	Post-med sandy red bricks; post great fire bricks	4	1450	1900	1666	1900	1780-1900	1750-1900
282	3033; 2276; 3106; 3107	Post-med sandy red brick; Post-med unglazed peg tile; Hassock stone (rub.); Reigate stone paver	4	50	1900	1480	1900	1700-1900	No mortar
286	3039; 2276; 3209; 3115M	Post-med sandy red bricks; Post-med unglazed peg tile; slate roofing; Modern floor/wall tile	4	300	1900	1820	1900	1820-1900	1800-1850
292	3033	Post-med sandy red brick	1	1450	1700	1450	1700	1450-1700	No mortar
293	3033; 3039; 2276; 3032nr3033	Abraded post-med sandy red bricks; post-med unglazed peg tile; intermediate post great fire	4	1450	1900	1480	1900	1664-1900	No mortar
295	3033	Whole post-med sandy red bricks;	3	1450	1700	1450	1700	1450-1700	No mortar
303	3033; 3039	Post-med sandy red bricks	4	1450	1700	1450	1700	1450-1700	No mortar
305	3033	Post-med sandy red paver	2	1450	1700	1450	1700	1450-1700	No mortar
309	2276; 3032nr3033; 3064	Post-med unglazed peg tile; intermediate great fire brick: blue tin-glazed	5	1480	1900	1480	1900	1750-1900	No mortar
321	2276	Post-med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
323	3039	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	No mortar
324	3033; 2276; 2279	Abraded post-med sandy red bricks; Post-med unglazed peg and pan tile	4	1450	1900	1480	1900	1630-1900	No mortar
325	2276	Post-med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
326	2276	Post-med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
328	3039; 3032R	Post-med sandy red brick; post great fire bricks	4	1450	1900	1666	1900	1780-1900	1750-1900
338	3106	Hassock stone (rub.)	4	50	1666	50	1666	50-1666	No mortar
340	2850	Reused post-med Flemish paver	1	1450	1800	1450	1800	1450-1800	1450-1800
342	2276	Post-med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
343	2276	Post-med unglazed peg tile	2	1480	1900	1480	1900	1480-1900	No mortar
357	2276	Post-med unglazed peg tile	2	1480	1900	1480	1900	1480-1900	No mortar
358	2586	Medieval unglazed peg tile	1	1180	1900	1180	1900	1180-1450	No mortar
360	2276	Post-med peg tile	2	1480	1900	1480	1900	1480-1900	No mortar
361	2271; 2276	Med and post-med unglazed peg tile	2	1180	1900	1480	1900	1480-1900	No mortar
363	3032nr3033	Whole intermediate great fire bricks	2	1664	1725	1664	1725	1664-1725	1450-1800
364	2271	Medieval unglazed peg tile	1	1180	1800	1180	1800	1180-1425	No mortar
365	3046	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	No mortar
368	3033	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	No mortar
371	3032nr3033; 3032	Intermediate and post great fire brick	2	1664	1725	1664	1775	1664-1700	No mortar

394	3039; 3033	Post-med sandy red bricks	2	1450	1700	1450	1700	1450-1700	1500-1750
438	3033; 2276	Post-med sandy red paver; post-med unglazed peg tile	4	1450	1900	1480	1900	1480-1900	No mortar

Recommendations/Potential

An assessment of the building materials (stone; ceramic building material; tin-glazed tiles, daub) from Queen Anne's Gate shows that post-medieval ceramic building material consists of 99% of the assemblage. By fabric there is a sizeable group (66kg) of early post-medieval local sandy red bricks which conforms to 37% of the assemblage.

A small group of silty Flemish tiles are typical of early post-medieval activity, as are the red brick fabrics which include red early post-medieval *3033, 3039, 3065* and *3046*. It is possible that some early post-medieval bricks came from houses built on Park Street (now Queen Anne's Gate) between 1686 and 1687.

By comparison the medieval component is very small (3% by weight), and is limited to standard peg tile and stones (Reigate stone) suggesting a very limited scale of activity. Medieval structures were heavily disturbed by later building activity.

There is a medium sized assemblage of intermediate and post great fire brick, although it is clear that some of the earlier post-medieval red bricks had been reused in 18th- and 19th-century buildings.

The form and fabric of the dumped post-medieval roofing tile, floor tile, brick and stone is typical of the 18th and 19th century with only occasional 17th- and 18th-century fabrics present which include *3032 and 3035.* Material recovered shows the post-medieval development in this area of London until the 20th century.

No further work is required for the building material assemblage.

Bibliography

Betts. I. and Weinstein, R.I., 2010. *Tin glazed tiles from London*. Museum of London Archaeology.

APPENDIX 7: METAL AND SMALL FINDS ASSESSMENT

Märit Gaimster with Kevin Hayward

Around 35 individual metal or small finds were retrieved from the excavations; they are listed in the table below. All finds bar one came from Phase 4 contexts; a handful of small ferrous fragments were recovered from the natural river sands of context [385]; as this belongs to Phase 1, the metal is intrusive here. While Phase 4 represents post-medieval properties on site, several sub-phases may be suggested by pottery dates and will be considered here.

The late medieval period

Two metal finds from the fill of horticultural feature [38] were associated with pottery dating from 1270-1350. The finds consist of a fragment of copper-alloy sheet or vessel (SF 2) and a heavily corroded iron object.

The Tudor period (1485-1603)

Two contexts produced pottery dating from 1480-1600. In one of these, layer [41], a delicate jet bead was also found (SF 32). The bead is lathe-turned with a decoration of concentric ridges. Possibly from a rosary, the bead has parallels in a find from Abbots Lane on the Southwark waterfront from a context dated *c.* 1500-1550 (Egan 2005, fig. 42 no. 245). Another jet bead was recovered from a late 16th-century context in Norwich (Margeson 1993, fig. 1 no. 9). The fill of pit [49] included two possible iron nails and a lump of iron-working slag.

The early 18th century

The lower fill of cesspit [288] yielded a handful of finds together with pottery that may date from 1740-1760. The finds comprise fragments of two fine copper-alloy pins (SF 26-27), a small lathe-turned ring of bone (SF 28), and an unusual ivory pin (SF 33). The pin is carved in the form of a so-called bodkin pin, with a narrow rectangular eye and a finial in the form of a minute spoon bowl. Metal pins of this type are well-known objects. Chiefly used to facilitate the lacing-up of bodices and other clothing, the small spoon would have functioned as an ear cleaner; earwax may also have provided a cheap and readily available supplement for beeswax, used on sewing thread to keep the ends from unravelling (Beaudry 2009, 97). Numerous silver examples have been reported through the Portable Antiquities Scheme, and bodkin pins are also depicted in contemporary Dutch genre paintings (*Ibid.*, fig. 2; Margeson

1993, pl. II-III). While copper-alloy versions are known from excavations (cf. Margeson 1993, fig. 4 no. 21), bodkin pins of bone or ivory do not as yet appear to have any parallels among published finds.

The early 19th century

The upper fill of cesspit [288] included a large assemblage of metal and small finds, along with pottery dating from *c.* 1800-120. The finds include at least seven highly corroded base-metal coins (SF 13-16, 18 and 21-22) and a gilded copper-alloy disc button (SF 23) along with metal fragments and possible objects. Two non-metal objects were also found. One is the ivory nozzle of a syringe (SF 17). The nozzle has two pairs of small opposing holes near the tip, but no threading at the base. It is likely to have been used for enemas, a popular treatment during the 19th century, and attached to a syringe of metal or glass with a rubber tube (cf. Jeffries and Richardson 2014).The other object is a worked stone object (SF 24), which is described by Kevin Hayward below.

This crisply dressed very dense 190mm x 47mm x 22mm - polished rectangular block is made of a particularly unusual, very dense light calf brown fine-grained laminated rock type, the basal 7mm of which changes in colour to slate grey. The change in colour most likely relates to natural changes in lithology at outcrop in this case from a white micritic limestone to a more carbonaceous mudstone at outcrop. The stone type is lithographic stone, a very hard fine dense limestone most probably from the Jurassic Solnhofen limestone in the Swabian Alps in southern Germany (Twyman 1972). It is sufficiently fine-grained, homogeneous and defect free to be used for lithography, as well as embossing and binding during book or map manufacture. This small block does not contain any print marks and is likely to have been used in the process of paring leather during bookbinding. Leather should fade away starting at some point 3 or 4cm from the edge to the edge, and be quite thin at turn-ins. For cutting the leather with a knife the flat even grained surface of the limestone is ideal and can be re-polished so that the stone can be used for the next job. It is possible that this narrow slab may have had a specific purpose in the book binding process that is to cut the leather for the spine of the book. Lithographic stones started to be used widely in Europe during the first quarter of the 19th century (Twyman 2001, fig. 14) including 70 lithographic printers by 1839 (Twyman 2001, 28) after lithography or printing on stone was discovered in the late 1790s in Munich by Alois Senefelder (Twyman 2001, 3). Indeed the founding fathers of British geology such as William Smith and William Buckland embraced its use in their publications and because of duties on German imported stone, actively sought to identify cheaper native alternatives from the Jurassic belt of southern England (Twyman 2001, 21).

Significance of the finds and recommendations for further work

The metal and small finds form an integral component of the archaeological evidence and should, where relevant, be included in any further publication of the site. The finds from Queen Anne's Gate include a small amount of significant finds relating to properties and households on site from the early modern period and through to the 19th century. A number of corroded metal objects would require further x-raying to aid full identification; they include possible residual late medieval finds. Following publication, iron nails and undiagnostic metal objects may be discarded.

Bibliography

Beaudry, M., 2009. Bodkin Biographies, in C.L. White (ed.), *The Materiality of Individuality; Archaeological Studies of Individual Lives*, Springer Science + Business Media LLC, 95-108.

Egan, G., 2005. *Material culture in London in an age of transition. Tudor and Stuart period finds c 1450-c 1700 from excavations at riverside sites in Southwark*. Museum of London Archaeology Service Monograph 19.

Jeffries, N. and Richardson, B., 2014. Finds related to medical and surgical treatment, in L. Fowler and N. Powers, *Doctors, dissection and resurrection men: excavations in the 19th-century burial ground of the London Hospital, 2006*. Museum of London Archaeology Monograph 62, 137-41.

Margeson, S., 1993. *The Medieval and Post-Medieval Finds from Norwich Survey Excavations*. East Anglian Archaeology 58.

Twyman, M., 1972. Lithographic stone and the Printing Trade in the Nineteenth Century. *Journal of the Printing Historical Society* 8, 1-41.

Twyman, M., 2001. *Breaking the mould: The first hundred years of lithography.* The Panizzi lectures 2000, London: The British Library.

QUA15: metal and small finds

context	SF	description	pot date	recommendations
11		Copper-alloy ring; incomplete; diam. 13mm; also two corroded copper-alloy fragments	19th century	x-ray
23	1	Copper-alloy ring-shaped object; heavily corroded and encrusted; diam. 25mm	n/a	x-ray
37	2	Copper-alloy ?sheet/vessel; fragment only	1270-1350	x-ray
		Iron ?object; tapering and heavily corroded fragment; L 65mm	1270-1350	x-ray
39		Iron nail; two corroded fragments	n/a	discard
41	32	Jet bead; small barrel-shaped with decoration of concentric lathe-turned ridges; diam. 4mm; ht. 6mm	1480-1650	
43		Iron ?nails; two heavily corroded	1480-1600	x-ray
		Iron-working slag; one lump only	1480-1600	Further identify
53		Iron ?nails; two heavily corroded	1480-1600	x-ray
286	10	Copper-alloy ?coin; fragment only	c.1800-1820	x-ray

	11	Copper-alloy ?object; two small fragments	c.1800-1820	x-ray
	12	Copper-alloy strap fitting; circular and incomplete; diam. 55mm; strap W 11mm	c.1800-1820	
	13	Copper-alloy coin; corroded and incomplete	c.1800-1820	x-ray
	14	Copper-alloy coin; highly corroded and partly bent; diam. 27mm	c.1800-1820	x-ray
	15	Copper-alloy coin; highly corroded; diam. 30mm	c.1800-1820	x-ray
	16	Copper-alloy coin; highly corroded; diam. 28mm	c.1800-1820	x-ray
	17	Ivory syringe nozzle; lathe-turned; bulbous point with two pairs of opposing vertical perforations; base with exterior circumferential ribbing on the exterior; L 93mm	c.1800-1820	
	18	Copper-alloy coin; highly corroded; diam. 30mm	c.1800-1820	x-ray
	20	Copper-alloy ?object; fragment only	c.1800-1820	x-ray
	21	Copper-alloy coin; highly corroded; diam. 28mm	c.1800-1820	x-ray
	22	Copper-alloy coin; highly corroded; diam. 22mm	c.1800-1820	x-ray
	23	Copper-alloy button; small disc button with wire loop; traces of gilding; diam. 13mm	c.1800-1820	x-ray
	24	Stone hone	c.1800-1820	
305		Iron nails; two incomplete	1600-1900	discard
338	26	Copper-alloy pin; shaft fragment only	?1720-1740	
	27	Copper-alloy pin; incomplete Caple Type C	?1720-1740	
	28	Bone ?curtain ring; lathe-turned D-section ring; diam. 26mm	?1720-1740	
	29	Ivory handle for tang-hafted implement; tapering of substantial size, likely for tool; L 90mm; flat end 25 x 30mm oval	?1720-1740	
	33	Bone bodkin pin; roughly carved in imitation of metal versions, with oval eye and spoon like finial; L 85mm	?1720-1740	
385		Iron; handful of small ferrous fragments	n/a	x-ray

APPENDIX 8: ANIMAL BONE ASSESSMENT

Karen Deighton

Introduction

A total of 183 identifiable animal bone fragments were collected by hand during the course of excavation. Animal bone was recovered from 4 phases as follows: Phase 1 natural, Phase 2 prehistoric (layer [140]), Phase 3 medieval (pits [108], [160], [362]) and Phase 4 post-medieval (4 quarry pits and a demolition dump although some material was recovered from cuts for crane bases).

Method

The material was firstly sorted into recordable and non-recordable fragments and bones with fresh breaks were reassembled. Identification was aided by Schmid (1972), Lawrence and Brown (1974) for small mammals and Cohen and Serjeantson (1996) for birds.

The following were recorded for each element: context, anatomical element, taxa, proximal fusion, distal fusion, side, burning, butchery, pathology and erosion. Ribs and vertebra were recorded as horse, pig, dog, sheep size or cattle size but not included in quantification as their multiple numbers introduce bias. Recording of fusion follows Silver (1969). Cattle teeth were aged after Grant (1982) and sheep teeth after Payne (1973). Recognition and recording of butchery is after Binford (1981). Recording of sexing data for pig canines follows von den Driesch (1976). Pathology is described after Baker and Bothwell (1980). Measurements were taken after von den Driesch .The material was recorded onto an Access database.

Preservation

Fragmentation was heavy with 47.5% of bones at the fragment stage, 10% at shaft stage and 34% whole. Surface condition was reasonable with little erosion. Evidence for butchery was consistent with chopping and two examples of sawing were noted. One sheep/goat scapula had a ragged hole through its blade which could be interpreted as hook damage from the carcass being hung up during the butchery process. No evidence for burning was observed and evidence for canid gnawing was restricted to 6 examples.

The taxa present

Table 1: taxa by phase

Phase/Taxa	1	2	3	4	Grand Total
Cattle	1	1	2	26	30

Cattle Size			2	10	12
Sheep/Goat	4		5	59	68
Sheep Size	1		1	11	13
Pig	2			11	13
Dog				6	6
Deer Species			1		1
Cat				24	24
Rabbit				2	2
Chicken			2	8	10
Goose				3	3
Indet Bird	1				1
Grand Total	**9**	**1**	**13**	**160**	**183**

Phase 4

Only Phase 4 produced enough bone to make comments with the largest concentration in cess pit [389]. This phase had the most diverse range of taxa and is dominated by sheep/goat, followed by cattle. Most taxa noted are food animals, however a concentration of cat bones are seen in context [338] (cess pit [389]) with a much smaller concentration in quarry pit [377]. Mostly feline limb bones were observed which does not suggest deliberate burial or carcasses disposal but is more likely to be skinning waste .The presence of disarticulated dog bones could also be the result of skinning.

The assemblage has both evidence for domestic waste (i.e. heavily butchered common domestics) and some industrial /craft activity (i.e. small concentrations of dog and cat bones).

Similar small assemblages with comparable species ranges are seen from other city of Westminster sites (West End Green (Rielly 2009), Lincoln's Inn (Rielly 2012)).

Significance and Potential

The potential for further work is restricted by the small size of assemblage. The significance of the assemblage is also limited but it does add to the corpus of existing work (e.g. West End Green, Lincoln's Inn) and provide some comparenda for future work.

Conclusion and Recommendations

Analysis has shown a small, reasonably preserved assemblage consisting largely of common domesticates. No further work is recommended.

Bibliography

Boessneck, J., 1969. Osteological differences between sheep (*Ovis aries* Linne) and goat (*Capra hircus* Linne), in D.R. Brothwell and E. Higgs (eds.), *Science in archaeology.* London: Thames and Hudson, 331-58.

Binford, L., 1981. *Bones ancient man and modern myths*. New York: Academy Press.

Brothwell, D.R. and Higgs, E. (eds.), 1969. *Science in Archaeology*. London: Thames and Hudson.

Grant, A., 1982. The use of tooth wear as a guide to the age of domestic ungulates, in B. Wilson, C. Grigson and S. Payne (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites.* British Archaeological Reports British Series 109, 91-108.

Lawrence, M.J. and Brown, R.W., 1973. *Mammals of Britain their tracks, trails and signs*. London: Blandford Press.

Rielly, K., 2009. Assessment of the Animal Bone Recovered from West End Green, 285-329 Edgware Road, City Of Westminster, London (WEJ09). Pre-Construct Archaeology Unpublished Report.

Rielly, K., 2012. Assessment of animal bone recovered from an Archaeological Watching Brief at 32 Lincoln's Inn Fields, City of Westminster WC2A 3PH (LIN11). Pre-Construct Archaeology Unpublished Report.

Payne, S., 1973. Kill-off patterns in sheep and goats: the mandibles from Asvan Kale. *Anatolian Studies* 23, 281-303.

Prummel, W., 1987. Atlas for the identification of foetal elements of Cattle, Horse, Sheep and pig Part 2. *Archaeozoologia* 1 (2), 11-41.

Schmid, E., 1972. *Atlas of animal bones*. London: Elsevier Press.

Serjeantson, D. and Cohen, A., 1996. *A manual for the identification of the Bird Bones from Archaeological Sites*. London: Archetype Publications Ltd

Silver, I., 1969. The ageing of domestic animals, in D.R. Brothwell and E. Higgs (eds.), *Science in archaeology.* London: Thames and Hudson, 283-302.

Von den Driesch, A., 1976. *A Guide to the measurement of animal bones from archaeological sites.* Harvard: University Press.

APPENDIX 9: ENVIRONMENTAL ASSESSMENT

Kate Turner

Introduction

This report summarises the findings from the assessment of 8 bulk samples and one power auger sample taken during an excavation on land at 1 Queen Anne's Gate, Westminster. Details of the sampled contexts can be found in Table 1.

Table 1: Context information for environmental samples, QUA 15

Sample No	Context No	Sample type	Context Type	Description	Phase	Date
1	37	Bulk	Fill	Fill of possible horticultural planting pit	4	Post-medieval
2	39	Bulk	Fill	Fill of possible horticultural planting pit	4	Post-medieval
3	41	Bulk	Layer	Flood deposit	4	Post-medieval
4	174	Bulk	Fill	Lower channel fill	3	Medieval
5	199	Bulk	Fill	Lower fill of channel	3	Medieval
6	217	Bulk	Fill	Fill of horticultural feature	4	Post-medieval
7	305	Bulk	Layer	Bedding for [303] (a brick floor surface)	4	Post-medieval
8	385	Bulk	Natural	Natural river sands	1	Natural
9	N/A	Power auger	River channel	Sample through river channel deposits adjacent to Dartmouth street	N/A	N/A

The aim of this report is:

1. To give an overview of the content of the assessed samples;
2. To determine the environmental potential of these samples;
3. To establish a preliminary chronological framework for the channel sequence;
4. To indicate whether any further analysis needs to be carried out.

These aims will be achieved through:

1. The assessment of bulk samples for palaeobotantical and palaeoenvironmental material, including seeds and charcoal;
2. The lithological and palynological assessment of a 1m core sample (sample <9>) taken through a river channel;
3. Targeted radiocarbon dating of the base and top of the river channel sequence.

Methodology

Bulk environmental samples

8 bulk samples of between 8 and 36 litres of sediment were processed using the flotation method; (1) material was collected using a 300µm mesh for the light fraction and a 1mm mesh for the heavy residue; (2) heavy residues were then dried and sieved at 1, 2 and 4mm; (3) sieved samples were sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items). The results of this are shown in Table 2.

The light residue (>300µm), once dried, was scanned under a low-power binocular microscope in order to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material. The results of this assessment are presented in Table 3.

Stratigraphic descriptions

A lithostratigraphic assessment of the core sample (<9>) was carried out using standard sediment recording procedures; the physical properties of the sample were noted, including (1) Munsell soil colour classification; (2) composition and inclusions (artefacts etc.), after Tröels-Smith (1955); e.g. disintegrated organic matter (Sh), gravel (Gg), coarse sand (Gs), fine sand (Ga), silt (Ag) and clay (As); (3) degree of humification of organic matter (humo) and (4) state of unit boundaries, for example sharp or diffuse. The results of this assessment are presented in Table 4.

Radiocarbon dating

Two bulk sub-samples of sediment were extracted from the top and the base of core sample <9>. The samples were submitted for AMS radiocarbon dating to the SUERC radiocarbon dating laboratory, Glasgow. The results have been calibrated using OxCal v4.2.4 (Bronk Ramsey, 2013) and the IntCal13 atmospheric curve (Reimer et al., 2013). The results of the radiocarbon dating are presented in Table 5 and Figure 1.

Pollen analysis

10 subsamples from power auger core <9> were prepared for pollen assessment using the following procedure: (1) 1ml subsamples of sediment were extracted using a volumetric sampler; (2) samples were sieved through 125µm and 10µm sieves to separate the coarse

and fine fraction, and to remove fine particulate material such as silts and clays and decanted into labelled centrifuge tubes; (3) tubes were centrifuged at 2500rpm for five minutes, and the supernatant decanted. Distilled water was then added, and the procedure repeated until the supernatant was clear; (4) hydrochloric acid was added to dissolve calcium carbonate; (5) minerogenic material was removed using Sodium polytungstate (specific gravity of 2.0g/cm^3); (7) cellulose and other plant material was removed using Erdtman's acetolysis, before which samples were dehydrated using glacial acetic acid; (8) samples mounted onto glass slides using glycerol jelly. Samples were cleaned thoroughly using distilled water between each stage of the procedure. 100 total land pollen (TLP) grains were counted per slide, along with fern spores and aquatic pollen, all of which were identified using the pollen key provided in Moore *et al.* (1991). A note was also made of the concentration and preservation of grains, as well as the presence or absence of macroscopic charcoal fragments. The results of this assessment are shown in Table 6.

Results and Discussion

Residues

The heavy residues were relatively poor in environmental remains; of the eight samples assessed, sample <8> contained no environmental material whatsoever and samples <6> and <7> contained only a small amount of animal bone. In general, animal bone was the most abundant material in the environmental assemblage; being present in 6 of the 8 samples assessed. The majority of this material belonged to small mammals and/or amphibians, though a number of bones belonging to large mammals were identified in samples <1> and <5>; concentrations were generally low (less than 10 fragments per sample), with the exception of samples <4> and <7> which contained between 30 and 100 specimens. Fish bone (<10 specimens per sample) was also identified in 3 samples; <1>, <3> and <4>.

Samples <1>, <2>, <3>, <4> and <5> all contained wood charcoal, each with fragments of a size to be identifiable to species level. The highest concentration of material was present in samples <1>, <4> and <5>, all of which yielded between 30 and 100 individual pieces. Sample <5> also contained fragments of un-burnt wood. In addition, a small amount of charred grain was discovered in sample <4>, preliminary identification of which suggests the presence of *Vicia spp.* (vetch) and *Triticum spp.* (indeterminate wheat), along with several specimens that were too degraded to be identified.

No terrestrial molluscs were identified in the heavy residues, though marine shell was present in samples <1> and <2>. Sample <1> was found to have the greatest diversity of material, containing abundant shell fragments of *Mytilus edulis* (common mussel), along with low frequencies (<10 fragments) of *Ostrea edulis* (european flat oyster) and *Cerastoderma edule*

(common cockle) (figure 2). None of the samples contained a statistically significant sample set (>100 complete Oyster valves) so no further analysis is recommended at this stage of the assessment.

In terms of cultural artefacts, low concentrations of building material; in the form of tile, brick and daub were found in four samples (<1>, <4>, <5> and <6>). Fragments of pottery were also identified in the majority of the residues, with the exception of samples <3> and <8>. Around 50% of the assessed samples contained industrial debris; as before concentrations were generally low (<10 pieces), though sample <7> did contain a slightly larger amount of coal, along with fragments of iron and hammerscale. Other finds of note include a jet bead, found in sample <3>, and a small number of flint artefacts in sample <4>. A complete record of the composition of this assemblage is provided in Table 2.

All of the material collected from the residues has been catalogued and passed to the finds department.

Table 2: Assessment of residues, QUA 15

Sample number	Context number	Volume (litres)	Residue						
			Charcoal	Seeds/grain	Shells	Animal Bone	Fish Bone	Building material	Artefacts
1	37	23	3*		*Ostrea edulis* (1) *Mytilus edulis*(3) *Cerastoderma edule* (1)	Large (1) Small (1) Fragments (1)	1	Tile (1)	Pot (1)
2	39	21	1*		*Ostrea edulis* (1)	Small (1)			Coal (1) Pot (1) Iron (1)
3	41	24	1*				1		Jet bead (1)
4	174	24	3*	Grain (1)		Small (3)	1	Daub (1)	Burnt flint (1) Struck flint (1) Pot (1)
5	199	36	3*			Large (1) Small (1)Fragments (1)		Daub (1)	Wood (1) Burnt flint (1) Pot (1)
6	217	13				Small (1)		Brick (1) Tile (1)	Pot (1) Coal (1)
7	305	8			Marine (1)	Small (3)			Coal (2) Pot (1) Iron (1) Hammerscale (1)
8	385	31							Iron (1)

*Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant * indicates pieces large enough for species ID*

Flots

All of the processed samples produced flots, of between 12ml and 320ml in volume. Small fragments of wood charcoal were abundant throughout the assemblage, though only four out

of the eight samples containing fragments of a size suitable for species identification (>2mm in diameter). Uncharred seeds were also found in all of the samples; peak concentrations of which were found in sample <1>, which contained nearly 300 specimens, and sample <4>. The main taxa present were of flowering plants, though a small amount of tree and shrub species were also identified, including *Malus spp.* (apple) and *Ficus carica* (fig). Preliminary assessment suggests that the most frequently occurring genera, being discovered in six out of eight residues, are *Chenopodium album* (fat-hen) and *Sambucus spp.* (elder), species which are commonly found associated with waste and/or cultivated ground. Sample <4> contained the greatest taxanomic diversity (appendix 1), yielding a variety of tree and plant seeds including those of *Betula spp.* (birch), *Chenopodium album* and *Juncus spp.* (rushes).

With the exception of sample <8>, all of the flots also contained charred seeds and/or grain. Concentrations of the former were low in samples <2>, <4> and <5>, between 1 and 30 specimens, and the range of species relatively narrow; though of note is a small amount of charred *Vitis spp.* (grape-vine) that was identified in sample <4>. Greater frequencies of seed were observed in samples <1>, <6> and <7> (>30 and <100 specimens), however a significant amount were heavily charred, to such a degree that any diagnostic features had been altered beyond recognition; suggesting that the material has been subject to prolonged, high temperature burning. This was also observed in the charred grain assemblage; in all of the seven samples in which grains were found a proportion of the assemblage was too heavily burnt for species to be determined. The majority of the assessed samples contained less that 35 grains, with the exception of sample <4> in which over 100 individual specimens were found. Samples <4> and <5> were found to contain the greatest amount of identifiable material, preliminary assessment of which indicates the presence of *Triticum spp.* (indeterminate wheat), *Hordeum spp.* (barley) and *Avena sativa* (oat). A small amount of burnt glume was also discovered in sample <5>, which may be an indication that cereal processing was being undertaken on site. A full record of the seeds identified in this assemblage is provided in Table 7.

Other environmental material, in the form of insect remains, wood fragments and/or desiccated plant material, was found in seven of the eight assessed samples; in general, the concentration of the insects was low (<30 specimens per sample) considering the size of the bulk samples, and none of the samples provided an assemblage of a size to warrant further analysis. Plant matter was more numerous, particularly in sample <8>, which was almost entirely composed of macroscopic botanical remains, and sample <7> which contained a number of preserved wood fragments. Samples <2>, <5>, <7> and <8> also contained low concentrations of fish and small animal/amphibian bone (<10 specimens per sample). Molluscan remains, terrestrial or otherwise, were not present in the flot residues, apart from in sample <1> where a small amount of broken marine shell was identified.

Sample <7>, taken from the bedding of post-medieval floor surface, contained the highest concentration of industrial by-products; the flot residue was entirely made up of fragmented clinker and slag, as well as containing numerous fragments of coal, indicating that the area in question may have been associated with some form of high-temperature manufacturing. With the exception of a small amount of coal in samples <1>, <2> and <3> the assemblage was otherwise devoid of this category of waste.

Table 3: Assessment of flots, QUA 15

Sample number	Context number	Vol (ml)	Flot						
			Charcoal >1mm	Charcoal <1mm	Seeds (uncharred)	Seeds (charred)	Grains	Mollusca	Other
1	37	33	1*	4	4	3	2	Frags (1)	Insect remains (2) Coal (2)
2	39	15	3	3	3	1	1		Insect remains (1) Coal (1) CBM (1) Fish bone (1)
3	41	11	2*	4	2		2		Pond weed (1) Insect remains (1) Coal (1)
4	174	18	3	4	3	1	4		Plant material (3) Insect remains (2)
5	199	15	2	3	3	2	3		Charred glume fragments (1) Plant material (3) Bone fragments (1) Insect remains (2)
6	217	12	2*	3	Frags (3)	3	1		
7	305	320	3*	4		3	1		Coal/clinker (4) Small animal bone (1) Charred bone (1) Insect remains (1) Wood (3) Slag (3)
8	385	22	3	4	3				Plant material (4) Bone fragments (1)

*Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant * indicates pieces large enough for species ID*

Stratigraphy and Radiocarbon Dating

The results of the lithostratigraphic descriptions for sample <9> are presented in Table 4 and Figure 1. Sandy silts characterize the top part of the core sequence, with traces of well-humified organic material present between 0 and 15cm. Towards the middle of the sequence charcoal fragments begin to appear, followed by an abundance of large mortar and brick inclusions, which may be an indication of a change in site use, or an increase in anthropogenic influence. The trend persists towards the base of the sequence, interspersed with small bands of sand, with the organic matter content appearing to increase substantially in the bottom 20cm of the sequence. The final part of the sequence contains both large amounts of wood charcoal and an abundance of mortar fragments.

Radiocarbon dates from the top and base of the sequence, results shown in Table 5, indicate that it spans a period from the Early Mesolithic (9131 to 8766 cal BC) to the middle of the Anglo-Saxon period (665 to 770 cal AD).

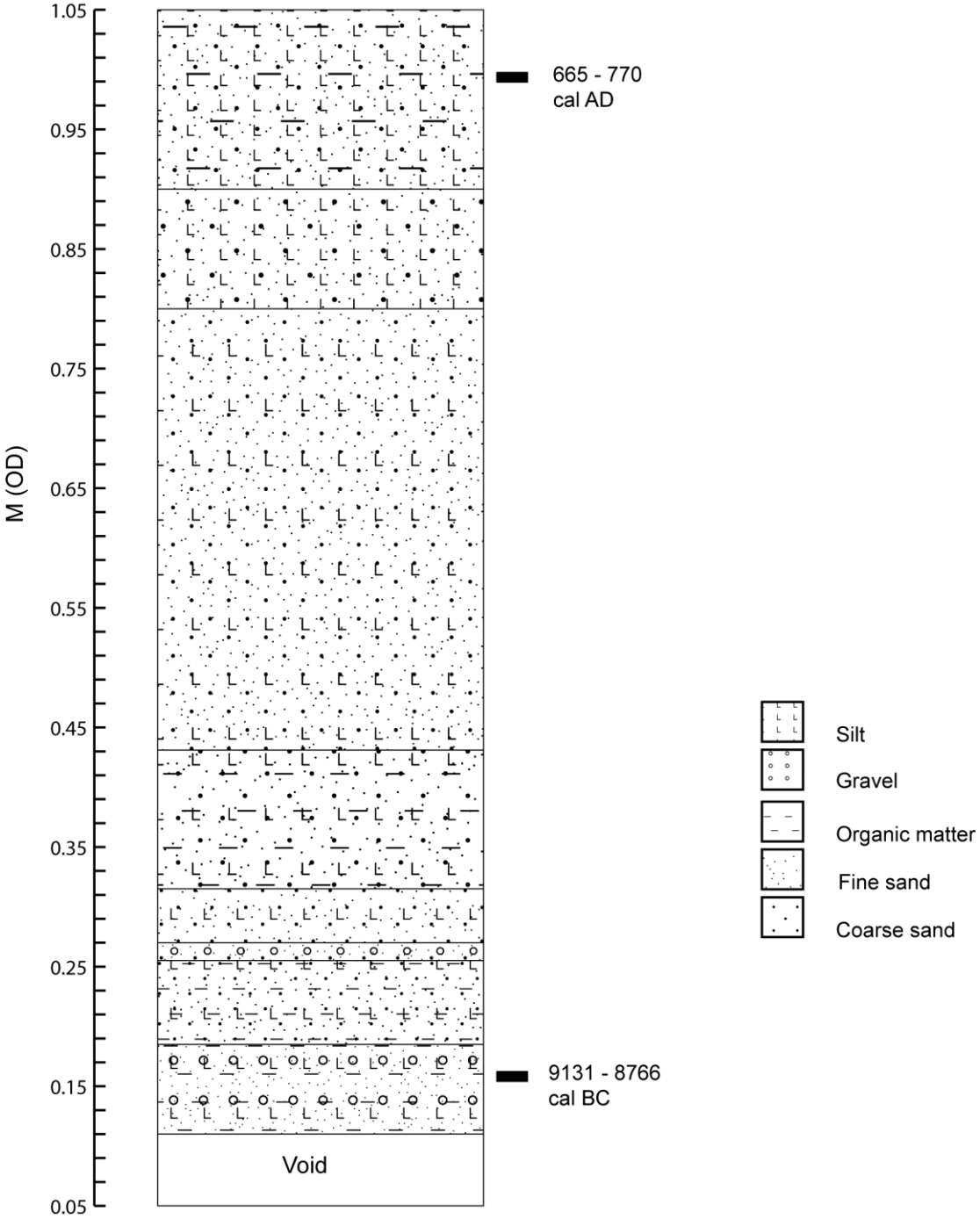
Table 4: Lithostratigraphic description of power auger sample <9>, QUA 15

Depth (m OD)	**Depth (m bgl)**	**Composition**
1.05	0.00 to 0.15	10YR 2/2; Ag2 Ga1 Gs1 As+ Sh+ (humo 4); very dark brown sandy silt with traces of clay with a minimal, well humified organic component. Diffuse contact into:
0.9	0.15 to 0.25	10YR 3/3; Ag2 Gs2 Ga1 As+; dark brown sandy silt with traces of clay. Diffuse contact into:
0.8	0.25 to 0.62	10YR 4/3; Gs2 Ga1 Ag1 As+ ; brown silty sand with charcoal inclusions. Sharp contact into:
0.43	0.62 to 0.735	10YR 2/2; Gs2 Ag1 Ga1 Sh+ Gg+; dark brown sandy organic silt matrix with large brick, chalk and mortar inclusions (humo 4). Sharp contact into:
0.315	0.735 to 0.78	10YR 4/2; Gs2 Ga1 Ag1 As+; dark greyish brown silty sand with mortar inclusions. Diffuse contact into:
0.27	0.78 to 0.795	10YR 4/4; Gs2 Gg1 Ga1 Ag+; dark yellowish brown sand. Sharp contact into:
0.255	0.795 to 0.865	10YR 2/1; Ag1 Ga1 Gs1 Sh1 As+; black sandy silt loam with peaty component (humo 4). Diffuse contact into:
0.185	0.865 to 0.94	10YR 2/1; Ag1 Ga2 Sh1 Gg+; black sandy peaty silt with large stone and wood charcoal inclusions (humo 4)
0.11	0.94 to 1.0	Void

Table 5: Results of the radiocarbon dating for power auger sample <9>, QUA 15

Laboratory code	**Material/Method**	**Depth (m OD)**	**Uncalibrated radiocarbon years before present (yr BP)**	**Calibrated age BC/AD (BP) (2-sigma, 95.4% probability)**	**δ13C (‰)**
SUERC-67277	Bulk sediment: humic acid dated	0.99 - 1.0	1290 ± 29 BP	665 to 770 cal AD (1285 to 1180 cal BP)	-29.2
SUERC-67277	Bulk sediment: humic acid dated	0.15 – 0.16	9545 ± 31 BP	9131 to 8766 cal BC (11,081 to 10,716 cal BP)	-28.0 assumed

Figure 1: Results of radiocarbon dating and lithostratigraphic descriptions, sample <9> QUA 15



Pollen analysis

The results of the preliminary assessment have shown that pollen concentrations are low throughout the river channel, chiefly in the latter half. From 0.72 to 0.92m less than 40 identifiable grains were observed per slide, the samples taken at 0.72 and 0.82m being

particularly barren. Due to the sterile nature of these deposits, the material present is unlikely to give an accurate representation of the local environment. Grain preservation was also generally poor, particularly in the top and basal sections of the sequence, with a high percentage of observed grains either broken or severely degraded. Microscopic charcoal was identified in nine out of ten of the assessed slides, with the exception of 0.22m; relative abundance was highly variable, though preliminary assessment suggests an increasing presence towards the base of the core, which may indicate a period of greater anthropogenic influence.

Herbaceous taxa were dominant in all of the assessed samples, with dandelion-type -type (*Taraxacum*) being the most abundant genera. Daisy-type (*Asteraceae*), crucifers (*Brassicaceae*) and goose-foot (*Chenopodium*-type), all common to cultivated or waste ground, were also identified throughout the assemblage. The presence of grasses such as *Poaceae* at 0.02m, 0.12m and 0.22m is not by itself diagnostic, as grasses are not unique to any one vegetation type. The increased presence of this taxa in select areas of the core, along with low concentrations of cereal pollen does however suggest that there may have been a movement towards arable land use in the surrounding area during this period, as cereal pollen do not tend to disperse far from source. *Brassica* and *Chenopodium,* also species indicative of cultivation, are additionally present in these samples.

Arboreal pollen values were noticeably low, with evidence of a steady decline as the depth increases suggesting a lack of dense woodland in the area; though a low background of *Quercus*-type (oak), *Alnus*-type (alder) and *Fraxinus*-type (ash) may indicate the presence of scattered shrubs and trees in the locality of the site. A small influx of *Filicales*-type spores, often associated with wooded areas, in the upper part of the core would support this.

The current pollen profile suggests areas of open grassland, with scattered local woodland, however the level of preservation and the possible over-representation of specific taxa indicates that this may not provide a complete vegetation profile for the site. A large proportion of the observed grains are from species that are particularly resistant to decay, for example, all of the assessed samples contained an abundance of *Taraxacum*-type pollen, known to be resistant to oxidation and microbial action, and easily recognizable even when crumpled or degraded. The differential preservation of pollen such as this, when compared to the more susceptible species such as *Poaceae* should be considered when interpreting this dataset.

Table 6: Results of the pollen assessment for power auger sample <9>, QUA 15

	Depth (m BGL)	0.02	0.12	0.22	0.32	0.42	0.52	0.62	0.72	0.82	0.92
Name	**Depth (m OD)**	**1.03**	**0.93**	**0.83**	**0.73**	**0.63**	**0.53**	**0.43**	**0.33**	**0.23**	**0.13**
Trees											
Acer	maple			1							
Alnus	alder	4	4	3	1	4	3	1			2
Betula	birch						4			1	
Carpinus	hornbeam										1
Cornus	dogwood			1							
Fagus	beech						1				
Fraxinus	ash	6	7	1	1	2	2	2	1		1
Morus	mulberry			1				1			
Pinus	pine	1		1							
Populus	poplar	2									
Quercus	oak	2	6	2	1		3	1	1	1	
Taxus	yew	1									
Ulmus	elm				1	1		1			1
Shrubs											
Calluna vulgaris	common heather					1		1			
Corylus type	hazel		3			1					
Ericaceae	heather							1			1
Hedera	ivy	2			2						
Ilex	holly			1							
Salix	willow		4	3	2	3	2				
Herbs											
Apiaceae	carrot family	2	1				1				2
Artemisia	mugworts	1	3		1			1			
Asparagaceae	asparagus family							1			
Asteraceae	daisy family	2	6	3	9	6	8	4		2	3
Brassicaceae	cabbage family	7	7	6	8	5	2	1	1		4

	Depth (m BGL)	0.02	0.12	0.22	0.32	0.42	0.52	0.62	0.72	0.82	0.92
Name	**Depth (m OD)**	**1.03**	**0.93**	**0.83**	**0.73**	**0.63**	**0.53**	**0.43**	**0.33**	**0.23**	**0.13**
Caryophyllaceae	pink family		3	1		1	1	1			
Cereal type	e.g. barley	3	5	1				1			3
Chenopodium type	goosefoot family	7	3	4	1	2	9	2	2	1	
Cirsium	thistles		3								
Cyperaceae	sedge family		1	2				1			
Epilobium	willowherbs		2								1
Fabaceae	legume family	1					1				1
Taraxacum	dandelion	31	15	54	71	70	62	74	4	1	1
Lamiaceae	mint family	1									
Plantago undiff.	plantains		3	1				1		1	
Poaceae	grass family	17	20	11	3	2	3	5	1	1	7
Polyganum	knotweed family	2	2	1			4	2			2
Potentilla type	cinquefoils			1							2
Ranunculaceae	buttercup family			2						1	
Rhinanthus	rattles	1									
Ribes	currants			1							
Rosaceae	rose family					1					5
Rubus	brambles		2			1					
Rumex undiff	docks/sorrels	2									1
Saxifragaceae	saxifrage family	2									
Symphytum	comfrey			1							
Urtica	nettles	3	1	1		2		1			
Aquatics											
Nymphaeaceae	water lilly family	2	4	1		1	2				1
Typha Latifolia	bulrush					1	2	1			
Spores											
Equisetum	puzzlegrass	1	3								
Filicales	ferns	10	10	5	5						

	Depth (m BGL)	0.02	0.12	0.22	0.32	0.42	0.52	0.62	0.72	0.82	0.92
Name	**Depth (m OD)**	**1.03**	**0.93**	**0.83**	**0.73**	**0.63**	**0.53**	**0.43**	**0.33**	**0.23**	**0.13**
Ophioglossum	adders-tongue ferns	1									
Polypodium Vulgarae	polypody				1						
Pteridium	bracken	3	4	2	5	1	4				
Thelypteris Palustris	marsh fern		5								
Trees		16	17	10	4	7	13	6	2	2	5
Shrubs		2	7	4	4	5	2	2	0	0	1
Herbs		82	77	90	93	90	91	95	8	7	32
Aquatics		2	4	1	0	2	4	1	0	0	1
Spores		15	22	7	11	1	4	0	0	0	0
Total land pollen (TLP)		**100**	**101**	**104**	**101**	**102**	**106**	**103**	**10**	**9**	**38**
Broken*		4	3	3	3	2	2	3	1	1	1
Concealed*		0	0	0	0	0	0	0	0	0	1
Crumpled*		4	0	3	3	2	2	3	1	1	1
Degraded*		0	0	2	2	2	1	1	0	0	0
Preservation**		2	1	1	1	2	1	1	2	1	1
Concentration***		2	2	2	2	2	2	2	1	1	1
Micro charcoal concentration****		1	2	0	2	1	2	2	3	3	4

*Key: *Unknowns: 0 = none, 1= negligible, 2 = occasional, 3 = fairly frequent, 4 = frequent, 5 = abundant **Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 =excellent;***Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide; ****Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = fairly frequent, 4 = frequent, 5 = abundant*

Discussion and Recommendations for Further Work

The aims of this assessment were to determine the environmental potential of both the bulk samples and the power auger sample, and to attempt to develop a preliminary chronological framework for the borehole sequence (sample <9>), as well as establishing whether any further analysis of need be undertaken. To achieve these ends a comprehensive evaluation of the bulk and core samples was carried out, looking at both cultural and environmental remains along with obtaining rangefinder radiocarbon dates for the supposed river channel sequence covered by sample <9>.

The results of this assessment can be divided into two sections, that of the bulk samples, taken from various contexts within the excavated archaeological deposits and that of the core sample, taken from a river channel running parallel to the site. The bulk samples contained a moderate amount of archaeobotanical material, in the form of wood charcoal, seeds and burnt grains, the analysis of which could provide further information on both the environment of the site, as well as industry and local resource use. Sample <1> contained a particularly diverse assemblage; with both identifiable charcoal, and seeds and grain being discovered, as well as a number of marine shells, which could be interpreted as a dietary component during the post-medieval period. Further assessment of the marine shell is not required, as the assemblage is not sizeable enough to be statistically significant, however further analysis and interpretation of the botanical material may prove useful when establishing an environmental profile for the site. Sample <4>, with its high concentration of charred grain, seeds and macroscopic plant material is also recommended for further assessment, as it may help us to understand the types of activity that are being carried out in and around the site. Of particular interest from a cultural perspective is sample <7>, due to the abundance of industrial waste products it contains; and as such this sample should be referred for specialist examination.

Radiocarbon dating of the core sample has shown that the deposits cover a period from the early Mesolithic to the Anglo-Saxon period. Although the preservation of pollen and spores in this sequence is generally poor, the data from viable sections may still be of interpretive value when looking at the developing landscape and the local impact of anthropogenic activity during these periods. Therefore, whilst a high-resolution assessment is not recommended at this stage, a comprehensive species count for a selection of the better-preserved samples should be undertaken in the future, as well as additional radiocarbon dating of one or more samples, in order to further refine the chronology of the sequence.

Bibliography

Brostrom, A., Nielsen, A.B., Gaillard, M.J., Hjelle, K.L., Mazier, F., Binney, H.A., Bunting, M. J., Fyfe, R., Meltsov, V., Poska, A., Rasanen, S., Soepboer, W., Von Stedingk, H., Suutari, H.

& Sugita, S., 2008. Pollen productivity estimates of key European plant taxa for quantitative reconstruction of past vegetation: a review. *Vegetation History and Archaeobotany* 17:5, 461-478.

Cappers, R.T., Bekker, R.M. and Jans, J.E., 2012. *Digitale Zadenatlas van Nederland/Digital seed atlas of the Netherlands (Vol. 4)*. Barkhuis.

Edwards, K.J., Whittington, G., Robinson, M. & Richter, D., 2005. Palaeoenvironments, the archeological record and cereal pollen detection at Clickimin, Shetland, Scotland. *Journal of Archaeological Science* 32, 1741-1756.

Moore, P.D., Webb, J.A. & Collinson, M.E., 1991. *Pollen Analysis*. Oxford: Blackwell Scientific.

Stace, C., 1991. *New flora of the British Isles*. Cambridge: Cambridge University Press.

Tröels-Smith, J., 1955. Karakterisering af løse jordater (Characterisation of unconsolidated sediments), *Danm. Geol. Unders*., Ser IV 3, 73.

Winder, J.M., 2011. *Oyster Shells from Archaeological Sites: a brief illustrated guide to basic processing* http://oystersetcetera.files.wordpress.com/2011/03/oystershellmethodsmanualversion11.pdf

Table 7: Preliminary identification of main plant taxa identified in environmental bulk samples, QUA 15

	Sample Number	1	2	3	4	5	6	7	8
Uncharred seeds	**Common name**								
Alchemilla spp.	lady's mantle								2
Amaranthus spp.	pigweed					2			
Anthemis spp.	chamomile	1							
Atremisia spp.	mugwort/wormwood	5							
Atriplex spp.	orache				4				
Betula spp.	birch				1				
Brassica spp.	mustards	27			3				
Carex spp.	sedges	11							
Chenopodium album	fat-hen	135	10	1	23	7	1		
Chenopodium spp.	goosefoots				5				
Drosera spp.	sundews			8					
Ficus carica	fig			1	3	2	2		1
Fragaria spp.	strawberries								39
Juncus spp.	rushes				42	45			1
Malus spp.	apple				2				

Persicaria spp.	knotweeds				2	2			
Ranunculus spp.	buttercups	21							1
Rosa spp.	rose				2				
Rubus spp.	brambles				3	1	26		10
Rumex spp.	docks/sorrels	3		1	5				3
Sambucus spp.	elder	85	40	19	2	1	7		
Silene spp.	campion						2		
Urtica spp.	nettles				3				5
Spikelets (Drosera cf.)		5		17					
Seed case (Juncus spp.)						3'			
Charred seeds									
Brassica spp.	mustards	23	1		2	1	7		
Bryonia dioica	red bryony		1						
Carex spp.	sedges	9			1				
Chenopodium spp.	goosefoots	3				4	2		
Rumex spp.	docks/sorrels	5					4		
Silene spp.	campion	1			5	1			
Urtica spp.	nettles	1							
Vitis spp.	vines				4				
No ID.		2'	1		2'	1'	3'	3'	
Charred grain									
Avena sativa	oat	1			13	6			
Hordeum spp.	barley				17	7			
Triticum spp.	indeterminate wheat	5		3	28	10	1	3	
No ID.		1'	1'	2'	3'	1'	1'	1'	

** Key: 1- Occasional (1-10), 2- fairly frequent (11-30), 3- frequent (31-100), 4- abundant (>100).*

APPENDIX 10: OASIS FORM

Project details	
Project name	1 and 3 Queen Anne's Gate, 9, 11 and 12-15 Dartmouth Street and 12 and 14 Carteret Street
Short description of the project	Three phases of archaeological watching briefs were undertaken at on land at 1 and 3 Queen Anne's Gate, 9, 11 and 12-15 Dartmouth Street and 12 and 14 Carteret Street between 2nd March and 11th November 2015. The natural drift geology was a light yellow brown alluvial sand, which was seen across the study area. Four phases of archaeological activities were recorded during the investigations. The earliest of these was prehistoric and included a regular pattern of postholes and a large palaeochannel seen in the east of the site and a shallow linear noted in the west. The channel in the east of site was backfilled during the medieval period. Two pits and various soil horizons were encountered in the western sector of site. The busiest period was the post-medieval which saw an initial phase of quarrying and horticultural activities followed by two phases of building activities. The earliest phase was characterised by pits and horticultural soil horizons. Brick walls, drains, soakaways, a cesspit and tile and brick floor remnants characterised the building phases. Brick and concrete footing dating from the 20th century were seen across the site.
Project dates	Start: 02-03-2015 End: 11-11-2015
Previous/future work	Not known / Not known
Any associated project reference codes	QUA15 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Industry and Commerce 2 - Offices
Monument type	WALLS Post Medieval
Monument type	PITS Medieval
Monument type	PITS Post Medieval
Monument type	DITCHES Medieval
Monument type	DITCHES Post Medieval
Monument type	CESSPIT Post Medieval
Monument type	DRAINS Post Medieval
Monument type	FLOORS Post Medieval

Monument type	POSTHOLES Late Prehistoric
Monument type	LINEAR Late Prehistoric
Monument type	CHANNEL Late Mesolithic
Significant Finds	GLASS Post Medieval
Significant Finds	POT Medieval
Significant Finds	POT Post Medieval
Significant Finds	CBM Post Medieval
Significant Finds	STRUCK FLINT Late Prehistoric
Significant Finds	BURNT FLINT Late Prehistoric
Significant Finds	ANIMAL BONE Post Medieval
Investigation type	"'Watching Brief"'
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	GREATER LONDON CITY OF WESTMINSTER CITY OF WESTMINSTER 1 and 3 Queen Anne's Gate, 9, 11 and 12-15 Dartmouth Street and 12 and 14 Carteret Street
Postcode	SW1H 9BU
Study area	1355.9 Square metres
Site coordinates	TQ 29737 79583 51.499778045639 -0.13068810915 51 29 59 N 000 07 50 W Point
Height OD / Depth	Min: 1.05m Max: 1.92m

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Gardiner and Theobald
Project design originator	Duncan Hawkins
Project director/manager	Helen Hawkins
Project supervisor	Shane Maher

Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	LAARC
Physical Contents	"Animal Bones","Ceramics","Environmental","Glass","Worked stone/lithics"
Digital Archive recipient	LAARC
Digital Contents	"Animal Bones","Ceramics","Environmental","Glass","Worked stone/lithics"
Digital Media available	"Database","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	LAARC
Paper Contents	"Environmental","Stratigraphic"
Paper Media available	"Context sheet","Diary","Drawing","Matrices","Report","Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Assessment of an Archaeological Investigation at 1 and 3 Queen Anne's Gate, 9, 11 and 12-15 Dartmouth Street and 12 and 14 Carteret Street, Westminster, SW1H 9BU
Author(s)/Editor(s)	Maher, S.
Date	2016
Issuer or publisher	Pre-Construct Archaeology
Place of issue or publication	Brockley
Description	A4 report

Entered by	Jon Butler (jbutler@pre-construct.com)
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